

Editorials

Baffled Bureaucrats

DR. Francis R. Packard, in his recently published history of the Pennsylvania Hospital, tells how Dr. Lloyd Zachary, Dr. Thomas Bond and Dr. Phineas Bond offered to serve the newly founded hospital for three years without compensation and "also to supply all the medicines for that time at their own expense." This was in 1751.

This spirit, which has always characterized the medical profession, continues to baffle the uplifters, doctrinaires and socialicians. If the doctors would only drop it the blessed advent of socialization would be expedited, with a letter-carrier status for latter-day Zacharys and Bonds.

Public Humbug Number One

IRRESPONSIBLE persons given to making impulsive and unwarranted charges against individuals or institutions engaged in the care of sickness may always be known by their own ineptitude in the face of direct demands in behalf of the sick. Their accusations and abuse are therefore a kind of psychological measure of what is the matter with them, for such accusations and abuse constitute a defensive mechanism whereby they compensate for their own shortcomings. The consciousness of inferiority in practical matters is nicely neutralized by smug feelings of reformatory zeal in the course of their fake



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activities. Civic criticism in general is motivated by this type of psychology. For one genuine Savonarola look for a horde of humbugs.

The Aspirin Eating Championship

WE are hailed by the German press as an inefficient nation of aspirin eaters. We are inefficient because we eat aspirin and we eat aspirin because we are inefficient. Quite a vicious circle here.

Certainly we are large consumers of aspirin, but is it likely that in the place of its origin it is never eaten? Are we to suppose that a country which dumps vast quantities of aspirin upon the neighbors with whom it trades on a barter basis is not also a great producer for domestic use?

If aspirin is good for headaches, why should not Germany need more aspirin than other nations? Is it not fair to infer that if she invented it first she needed it most?

If her indictment of us is true it is no distinction to be proud of. It should give us a headache not remediable by aspirin.

Perhaps the amount of aspirin eaten by a nation is a measure of its worth or worthlessness.

Britain Scorns Pasteurization

BRITISH opinion still rejects pasteurization, despite the fact that 40 per cent of the milch cows in Britain were

recently found to be infected with bovine tuberculosis. Thus the Cabinet, on November 30, withdrew a bill to control typhoid and tuberculosis by compulsory pasteurization of milk and amalgamation of small distributing companies. This withdrawal was due to the vigorous objections of farmers and consequent revolt of 130 supporters of the Prime Minister. It seems that a compromise is to be reached whereby big dairies will not benefit at the expense of those that cannot afford the necessary equipment; in other words, pasteurization will not be compulsory.

For many, many years we have been told that there was never any nonsense about such things and that Britain was far in advance of the rest of the world in public hygiene and sanitation.

Perhaps she is beginning to fall behind in this field, as in many others.

Spurious Supermen

WHEN one considers how often the great discoverers have been slapped down, it is ironic to contemplate the acclaim now and then accorded to well-meaning but really bogus heroes. There can be no stranger experience than that of the man of utterly worthless achievements who is greeted by his generation with accolade and fanfare, and who, believing in his own twaddle, and believed in, wears his laurel bays like any conqueror.

Such a man was Pekelharing, who, something over fifty years ago, isolated the causative factor of beriberi and successfully inoculated rabbits with it. All twaddle, of course. Both he and the world wanted to believe that beriberi was caused by a germ, and he obligingly "proved" that it was. He was an industrious and well-meaning scientist who thoroughly deceived himself and the world. Our literature contains nothing stranger than the report of his work (*Nederlandsch tijdschrift voor geneeskunde*, 2:276, 1887).

The fact that such a man is sincere, and not a Cook-like character (he of arctic fame), does not lessen the irony. It has happened before; it may happen again; it may be happening now.

Force Begets Force

WHEN we use the word compulsory the use of force is implied. The proponents of compulsory health insurance constantly employ the term in the most casual way, assuming as a matter of course that professional service under such a system will be obligatory, just as participation on the part of the workers will be obligatory. Thus on pages 225 and 226 of his recently published book, *The March of Medicine*, Ray Lyman Wilbur, President of Stanford University, smugly discusses the steps by which the medical profession can be gradually but surely subjected to this type of force, the imposition of which he favors. Many will recall the efforts of this ineffable pundit in connection with the National Conference on the Costs of Medical Care in 1932.

How astonished such proponents would be if their opponents began likewise to talk in a casual way in terms of force.

Why should advocacy of "ganging up" be all right when socialicians practice it and all wrong if the other fellow were to practice it?

Why are there no laws which the Department of Justice could invoke against mongers of force, as it has invoked existing laws against the American Medical Association?

Citing the Workmen's Compensation system as an evidence of compulsory service already in existence does not deprive our query of its cogency—suppose we were to abandon our role of the Chinamen of medicine and to begin to talk and act in terms of force?

The Cervical Temperature

WE have no doubt that our gynecologic colleagues have determined a temperature norm for the uterine cervix and that they utilize it in their management of the "hot pelvis," for one would suppose, theoretically, that the presence and degree of an adnexitis, for example, might be in part measurable by the cervical temperature.

Our remarks are occasioned by the work of Zuck, Todd, et al. in apparently

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Applied Psychology

IN GENERAL PRACTICE

1—*The Individual vs.
Environment*

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"PSYCHOLOGY
can be defined

as the study of the behavior of living organisms, particularly human beings. Applied psychology is the application of the principles of psychology to the understanding and the betterment of human behavior."¹

Behavior of any organism depends upon its intrinsic make-up, which includes its past experiences, its hereditary factors, its present physiological abilities and the nature of the environmental stimuli which act upon the individual. If these stimuli become increased in number and caliber, the individual may be unable to compensate or parry the agents which affect it.

These environmental agents are many in character. A few examples are such factors as temperature, physical force, economic stress, irritating invaders of the host, such as parasites and bacteria, excessive moisture or the lack of it, dust and other allergens. Mere existence can be reduced to the struggle between the individual and its environment and the ability of the organism to repair its structure from the damage received in the struggle for existence.

Human beings are brought in contact with the forces of environment *in utero*, and the stress and strain of the struggle for existence is multiplied many times at birth and thereafter. The ability to compensate, develop or grow in the face of these environmental agents denotes a robust individual.

From time immemorial, the physician has been the guardian of the sick. Before scientific knowledge and practice

formed the major portion of his armamentaria, the doctor made use of various methods to protect his charges from the forces of nature. The shaman in the jungles of Africa invoked artistic

practices in the form of charms and amulets, and black magic became a weapon to beat off the forces of environmental stress upon his patient. But, as the dynamics of pharmacology and surgery were introduced, and primitive methods became supplanted by more exact practices, the practitioner became more realistic in his endeavors to treat the sick. The trend for specifics became the goal of the doctor in the treatment of disease. This advance of knowledge was based upon preventive phases of medical science, which attempted to immunize the individual before the person became confronted with a particular type of environmental agent. Hence, the physician became both preventer and repairman.

2—*Results of Environmental Forces*

EVERY individual is subjected to the stress and strain of his individual environment. The body finds it necessary to compensate for these continual changes which ensue from the struggle. Furthermore, bodily compensation must take place to detoxify and remove the products of metabolism of the body, if the individual is to survive in his struggle for existence. The individual finds himself at a disadvantage if the tissue mechanisms are delayed in making these changes; and this retardation is liable to promote the development and growth of foreign living organisms, such as parasites and bacteria, in the host. Thus, the origin of pathologic physiology becomes nascent, and the individual begins to manifest the signs and symptoms of the malady. Should metabolism remain distorted, structural change takes place.

¹From the Appleton clinic.

The first changes are microscopic in extent, but macroscopic findings become apparent as the pathologic physiology continues.

Beside diagnosis is dependent mainly upon a complete history of the external force, whether an infection, act of violence, or some other agent which has come to affect the individual. Physical examination reveals the signs of such invasion, whether it is noted by the five cardinal signs of inflammation, evidence of fracture, or the manifestations of intrinsic pathologic physiology, exemplified by an adenoma of the thyroid gland. The point is that some external change has caused the body to vary in its normal physiology, no matter what type of disease confronts the examiner.

Laboratory methods, such as the examination of blood and urine, x-ray studies, etc., assist only in the demonstration of the particular type of pathology which happens to be present in the case.

The outcome of the struggle between the individual and his environment is dependent upon the intrinsic nature of the agent and the ability of the body to ward off the effects produced by the former. Should the invading agent damage enough vital tissue, or should the host find itself unable to compensate for this loss of vital tissue, death is apt to ensue. However, if the individual's recuperative forces are sufficient to compensate for the damage, among other methods, by repairing the devitalized tissue, the individual may live, although at a lower level of efficiency. This is exemplified by the residue of cases of poliomyelitis, bacterial endocarditis, amputations of organs and extremities, and the like.

Recovery denotes the ability of the individual to repair the damaged tissue.³ This may be accompanied by the overproduction of excess material of a curative nature and is concerned with the production of immunologic substances, as is noted in cases of rubeola, diphtheria and varicella.

3—The General Practitioner and Preventive Medicine

THE most logical system of medicine is based upon prevention of disease. Given the ability to prevent tissue dam-

age, there is little need for therapeutics. Thus, in the routine of general practice, it is the family physician's duty to familiarize himself with the environment and the specific states of health of his patients. By carrying forth the preventive aspect of medical practice, the family physician is cognizant of the many environmental stresses and strains which affect his patients. He does not wait for these noxious stimuli to wear down the resistance of patients, as he attempts to rearrange the environmental set-ups of those who are affected by these unhealthy stimuli. In other words, the general practitioner acts as an immunologist and emphasizes the preventive phase of medical practice. He should be fully aware of the sociological aspects of those patients who place their well-being in his hands. Therefore, if he attends a patient who has five unruly children around her, he should acquaint himself with the state of health, in terms of resistance and reserve, which the mother possesses. He should make plans to move the patient away from the stress and strain of the upset environment until the time arrives when the patient can compensate fully and adjust herself to the disturbance. If this routine cannot be accomplished, then other plans should be instituted in order to give some respite to the debilitated mother.

We physicians speak of the establishment of mutual understanding between patient and doctor as "rapport." This state of faith, through which the patient entrusts himself to the doctor, is a most important aid to the attending physician. Once this develops between the patient and himself, he is able to effect measures which are most beneficial to his patient; he possesses a method of giving relief to the sick if called to attend the particular patient. Most good clinicians are well aware of this ability. The general practitioner should strive to develop it in all of his contacts with his patients.

The fact remains that some practitioners have this ability and others seem to be devoid of it. The questions are then, how can one develop this ability, and upon what does this psychology depend?

4—Psychology of Treating the Sick

SINCE this is a most important subject for all practitioners, and its scope needs a monograph to cover the subject adequately, it will be necessary to limit the discussion to some of the highlights of this huge topic, which appears to have been neglected in our great desire to discover and treat pathology.

If one rushes up to a strange dog and attempts to pet it, the result will be either a frightened animal or a bite on the hand. If one approaches the animal slowly and speaks to it kindly, and then slowly extends the welcoming hand so that the dog can sniff it and become acquainted with the motives of the person, a wag of the tail will usually ensue; granted that the environment of the animal has not made it necessary for Fido to remain under a table to avoid a lusty kick now and then.

If one should ask what one important attribute a successful physician should possess, I would reply: that of kindness. Very few medical men attain the pinnacle of success through sheer skill. The milk of human kindness, coupled with sympathy and an intelligent understanding of human frailty, will go far to cement the important bond of understanding between patient and physician.

This argument is based upon the fact that the practice of medicine is primarily an art and not a science; for one cannot treat a human being as one would a machine. Individual differences are too abundant for us ever to consider one patient in the same light as another. Furthermore, most individuals regard themselves as being different from their fellow men, whether this difference lies in intellectual prowess or in appearance.

Physicians who have attained phenomenal reputations are usually sympathetic, kindly souls. To other clinicians, they are known as "smooth," which means that they possess tact and charm. They do not irritate their fellow men. A dictatorial attitude of the physician toward his patient will speak against the establishment of confidence in the doctor. One cannot expect a good history from a patient who is afraid to confide in the physician; nor can such a patient relax sufficiently to give a coherent story of the malady if he is afraid that the doc-

tor is unsympathetic and regards him as just another automaton.

If the attending physician irritates a patient, the possibility is that the patient will have two sources of irritation, one, the present illness, and two, a revulsion toward the physician.

5—Psychic vs. Physical Agents In the Production of Disease

THE dichotomy of morbid processes into that of physical and mental components is a most unfortunate one. It seems inconceivable that a mental etiologic agent should operate without a physical basis. Radio waves, in themselves, are quite abstract. One cannot see them, yet they can be amplified and heard. Light waves cannot be seen, but they can be measured and recorded on the proper instruments. Thought waves cannot be seen, yet they have been recorded by the aid of the electroencephalogram.

Such terms as "psychic" and "mental" are abstract. However, the components for which these terms stand are real, for their results have been observed and measured scientifically many times.

I wish to call attention to the flagrant disregard of some physicians for the importance of and the real physical basis for such entities as mental stress, environmental and emotional upheavals, and the like. With a wave of the hand, some physicians disregard the physical basis of the above clinical syndromes. Perhaps this can be traced to the lack of understanding of the physiology which is involved in so-called "psychic upsets."

However, such disorders can be demonstrated to depend upon the most concrete pathologic physiology. These are not ethereal, nor are they philosophical in texture; abnormal physiology is involved, no matter what polyglot terms we employ in order to describe the process.

The general practitioner is overcome with terms and mechanisms which seem unreal to him, and difficult to relate to that which he sees in his daily practice. He does not face the "ego," the "libido," the "censor," the "subconscious" or "repressed material." He has a sick person on his hands, and he can see, hear, and feel the signs of disease, whether it be evidenced by excitement, marked depres-

sion, or a dry skin. The blood pressure, pulse, respiration, heart borders, heart beat, dilated pupils and facies may mean more to him than do philosophical terms and seemingly pseudo-scientific rituals. The physician is a biologist and not a high priest. "Incantations" and spells of "black magic" are not for him. Furthermore, he does not understand the foreign language of some "mind specialists" who speak of frustrations, and other magical terms. The general practitioner knows a "nervous" patient when he sees one, but he has never been taught an explanation for the genesis of such a disorder in the biologic nomenclature which he employs daily. Therefore, he loses interest in such patients, and soon these unfortunates consult some cultist for aid. The doctor is not to blame. It is a sin of omission and not commission. Give the general practitioner something tangible to work with, and he will do better, no doubt, than would an outsider who thinks that he knows the answer in magic incantations.

6—The Psycho-immunologic Approach as a Possible Solution

THE general practitioner sees the results of trauma in his patients, whether the causative agent happens to be a blow on the head, the effect of toxins on tissues due to bacteria, or residence in an unpleasant and irritating environment producing "nervousness." A low red blood count might be the cause of such symptoms.⁴

Years ago, Carl Wernicke formulated a valuable concept⁵ which seems to have become lost in the mad shuffle and the pile-up of an endless number of so-called scientific publications. Wernicke spoke of the doctrine of specific nerve energies, in which he stated that every content of consciousness was dependent on a definite set of nervous elements which were psychosensory, intrapsychic and psychomotorial.

Thus, the interruption of any impulse might occur at any point ("sejunction") and the function of any sphere might be either decreased or increased. He believed in the localization of memories (interesting in the light of the subcortical lobotomy of Moniz for these "nervous" patients), and that hallucinations

were caused by irritation of the memory-image centers and irradiation thence to perception cells.

This theory fell into disrepute because it could not be confirmed experimentally. But with the relatively recent advent of the recording of brain currents it seems that Wernicke's theory appears to be quite logical.

Of recent interest is a paper by Kerr, Dalton and Gliebe,⁶ who call attention to the upset physiological balances induced by a continuous anxiety state, based primarily upon fear. More and more impulses of this nature bombard the sympathetic nervous system. Thus, the defense reaction is overcome by the new onset of overwhelming stimulations. In other words, the patient's tolerance wanes, and subsequent emotional strains and stress add to the breakdown of natural defenses against the patient's noxious environmental forces.

If the patient is able to compensate, or at least partially repair the destruction caused by environmental stress and strain, his adjustment can be compared to convalescence from a localized infection. But if the external forces overwhelm him, he exhibits a psychopathologic syndrome, which can be likened to a patient in a moribund state produced by an overwhelming and generalized infection.

In other words, the struggle for existence, whether it be due to an irritating situation or to invading organisms, depends upon the virulence of the external agent and the reserve of the patient. This can be stated in terms of cardiac, emotional, hepatic, buffer or any other physiologic reserve. It is the individual against his environment. Let us reduce these concepts to biologic terms.

Cause and Effect

THE afferent phase of the nervous system is an important factor which serves to keep the individual in contact with his environment. Thus, voice is carried by the auditory nerves to the brain; sight is carried by the optic tract; feeling, by the afferent components of the peripheral nerves, etc. These and other nerves serve as antennae to notify the individual concerning the nature of his environment.

I have elected to term any such factor, of a perceptive nature, a psycho-allergen. It is capable of producing or exciting a condition of specific hypersusceptibility after being carried to the brain by the afferent mechanisms¹ of sight, taste, hearing, smell, feeling, etc. The effects of such stimulations record themselves on the brain tissue. Thus, we note that learning is the result of these afferent stimuli in the form of a definite and specific sensitization of the brain to this peripheral stimulation. If the experience, in terms of the "dose" of the psycho-allergen bombarding the receptive apparatus, is great in amount, the memory retention is greater in the normal individual. This "dose" of psycho-allergen, whether it be the sight of a murder or a verbal chastisement from one's wife, is of two types; it depends upon the amount of psycho-allergen and the condition of the receiving center in the brain. Therefore, the dose of psycho-allergen

can be strong enough to precipitate a marked emotional response (provocative dose) or it can be sensitizing in the extent of its reaction upon the individual. If the amount of psycho-allergen is overwhelming (as in the cases of shell-shocked soldiers), the body cannot compensate and a neurosis results. If the environmental irritation persists, a psychosis may be the end result. Metaphysical mechanisms are not necessary to explain the results of environmental irritation upon patients.

We, as practicing physicians, should be fully aware of the presence of environmental tension in our patients; if it is present, our common sense will guide us to an adequate solution. We must protect our patients from the effects of force and irritation, whether these be in the form of an "acute abdomen" or domestic difficulty. Preventive medicine has a most important place in such matters. 103 WEST COLLEGE AVENUE.

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determining the period of ovulation in two hundred couples by means of morning temperature charts, since the temperature is alleged to drop a degree or more during this biologic phenomenon. We do not know how these observers took temperatures in this series; by rec-

tum it would be more accurate than by mouth; by the cervix presumably most accurate.

The cervical temperature can not necessarily be correlated with the mouth temperature. There can be a "hot pelvis" without a "hot mouth."

The taking of the cervical temperature, in any case, is a promising clinical measure in certain circumstances; more valuable and simple, perhaps, than many routinely invoked and sacred procedures.

PREVENTION OF POSTOPERATIVE COMPLICATIONS IN

Hemorrhoidectomy

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IN an extended history covering over 2,000 years,^{1,2} the operative treatment of hemorrhoids naturally has undergone repeated changes. Many procedures have in turn come into vogue only to be condemned subsequently and discarded for newer methods, or, at times, for revived older ones. It is of interest to review briefly a few historical facts in the development of some of the surgical treatments past and present.

1. ACCORDING to John Houston³, the clamp and cautery method was originated by Cusack, of Dublin, who clamped the hemorrhoid, excised, and then cauterized with nitric acid (the actual cautery was not introduced for this purpose until later by Lee and Smith⁴, in England). A later development of this procedure is the use of clamp and cautery followed by suturing. Another variation is the use of the hemorrhoidal clamp, with excision and suture, wherein the scalpel replaces the cautery for the ablation of the tissue. 2. The Whitehead method,⁵ introduced in 1882, of excision of the pile-bearing area is now not favored, due to its extensiveness and the risk of producing severe encircling anal stricture or a mucosal eversion. 3. Older methods, now completely relegated to limbo, were divulsion of the sphincter, which may be temporarily palliative but is injurious to the muscle, crushing of hemorrhoids, electrolysis, the application of caustic ointments or strong acids, and ignipuncture. 4. The development of the ligation and excision procedure has passed through several stages. Simple excision without ligation was practiced in the nineteenth century but was soon

abandoned, as might be expected, due to the frequency of postoperative hemorrhage. Ligation without excision, on the other hand, is one of the most ancient methods and the basis of the similar modern procedure. It is referred to in the Hippocratic works. In late years this method with variations has been much used, of course with the addition of dissection and excision of the ligated pile. In its original form the technic comprised merely ligation, following which the hemorrhoid was allowed to slough off. In the early 1800's this ligation procedure was modified by Salmon, the English proctologist, who founded the first rectal hospital in the world, 'The St. Mark's Hospital for Fistula and Other Diseases of the Rectum.' Salmon added an incision around the base of the hemorrhoid yet did not excise the whole mass, probably because he feared the risk of hemorrhage or infection in the open wound. The additional step is taken in the present dissection-ligation-excision operation, the technic of which is, in brief form, as follows:

Ligation and Excision Operation

PREPARATION consists of a non-residue diet on the day preceding operation and, in the evening, perianal shaving, cleansing and a soapsuds enema. The enema is preferably not repeated the morning of operation since retained liquid feces may pour forth when most annoying to the surgeon. Morphine is given one hour preoperatively. The patient is placed in the position preferred, either the Sims lateral, lithotomy, or prone with elevated hips, and the anesthetic of choice ad-

ministered. The anal canal and perianal region are painted thoroughly with an antiseptic solution such as mercuriochrome, picric acid, or, externally, iodine and alcohol. The use of iodine on the mucous membrane appears unnecessarily harsh.

The anus is retracted, each pile seized with a clamp, and additional clamps used for the external portion of the pile if necessary. With scissors or scalpel the junction of the base of the hemorrhoid and the perianal skin is incised into the submucous space. By blunt dissection with the finger wrapped in a single layer of gauze, assisted when required by scissors or scalpel, the remainder of the pile is separated to its upper end where it remains attached by the pedicle containing its vessels. Injury to the sphincter is carefully guarded against. Chromic catgut No. 1 on a round needle is passed through the pedicle from its lateral aspect inward toward the lumen of the anal canal, thus permitting placing the needle and the ligature accurately in the groove between the pedicle and the anal wall. It is then tied as a suture-ligature completely around the pedicle and the hemorrhoid is excised. The procedure is repeated for the remaining piles. A well lubricated rubber tissue or gauze drain is inserted into the anal canal and dressings are applied and held in place by adhesive and a snug T-binder.

POSTOPERATIVELY on the first day morphine is given hypodermically in $\frac{1}{4}$ grain doses as required for pain. The drain is removed in twenty-four hours when dressings are changed and the tissues cleansed with warm water and a mild antiseptic such as hydrogen peroxide. Soft diet is given for two days in moderate amounts and then a full diet in smaller quantities. On the second day the patient begins to receive mineral oil by mouth and on the third day three to five ounces of warm olive oil are injected into the rectum through a small caliber, soft rubber catheter, thus permitting an easier first bowel movement. The patient may leave the hospital as soon thereafter as desired. Beginning about a week later, i.e., on about the tenth day, and continuing until healing is complete, the lubricated index finger is

inserted into the anal canal every two or three days to prevent the formation of adhesions.

Though in practice it may assume a number of minor variations, the operation of ligation and excision appears to the writer to be the simplest and most effective type of hemorrhoidectomy. The fact must be strongly stressed that excellence in the technic and in the results obtained depends upon attention to a number of important details which I have classified under the following four headings. These details may spell the difference between good postoperative results and unsatisfactory ones.

I. Removal of the proper amount of tissue. This entails

- (a) conservation of tissue to prevent tightness or stricture, the most common postoperative complication, and
- (b) removal of sufficient tissue to eliminate skin tags, in so far as possible.

II. Decrease in postoperative pain—to the patient the most feared accompaniment of hemorrhoidectomy.

III. Prevention of infection.

IV. Prevention of hemorrhage.

There is obviously some overlapping of these headings. For example, prevention of stricture entails both conservation of tissue and avoidance of infection. Outlined below are the points of technic which, during the past years of increasingly close attention to them, I have found to be most helpful in attaining the above desiderata.

Removal of Proper Amount of Tissue

If the anal pathology is amenable to improvement preoperatively this should be accomplished, and acute edema or infection controlled by rest in bed, diet and appropriate dressings or irrigations. When edema and infection have subsided, a more correct estimate of what requires removal can be made and, in addition, strictures attributable to operating in the presence of acute infection may be prevented. A preliminary reduction of prolapsed edematous piles by the use of cold compresses with adrenalin is desirable, but if they are strangulated or sloughing operation should not be delayed.

Tissue landmarks and the degree of

redundancy and prolapse are carefully noted for guidance. A decision concerning what is to be removed is made before the injection of a local anesthetic. Clamping and handling produce misleading edema.

Spare the skin and mucosa as much as possible by keeping incisions close to the sides of the hemorrhoidal mass, thus forming a narrow pedicle and leaving intact skin and mucosa between the excised areas.

If much mucosa has unavoidably been removed it may be well to draw the pile stump down toward the exterior and bury it by a suture into the raw area, where it will help to provide soft tissue and decrease scarring. The ligature around the pedicle may be left long and threaded on a needle for this purpose.

The ligation and excision of each pile should take place at a different level from the anus, in other words, be staggered, to prevent the formation of a continuous circular scar.

Routine postoperative dilation of the anus by insertion of the lubricated finger is important in breaking up any young adhesions. This measure must not be neglected. It is begun about the tenth day when pain is not too severe and repeated once, twice or three times a week as required, until the patient's discharge.

Decrease of Postoperative Pain

If a local anesthetic is used inject only as much as will suffice for complete anesthesia. Unnecessary distention of tissues not only produces distortion but also injures the tissues and increases "after pain."

Much of the pain is due to the spastic contraction of the sphincter when it regains its tonus. Preoperative stretching of the muscle is ineffective in counteracting this result because the paralysis produced is only temporary and the muscle may be permanently injured in the process. In fact any dilation required for exposure is best done gently and to a minimum degree. Of value in reducing this postoperative spasm is the preoperative injection of a sterile almond oil solution of nupercaine base—0.5 per cent with phenol 1 per cent and benzyl alcohol 10 per cent, approximately 1.5 cc. into each side of the external

sphincter muscle. The oil solution is evenly distributed in tiny droplets by means of a 23 gauge needle. This produces partial or complete muscular relaxation for five to seven days, and a definite decrease in pain. Instead of into the muscle it may be injected, but with somewhat less certainty of action, lateral to it, fanwise, hoping to affect the filaments of the inferior hemorrhoidal nerves and branches of the fourth sacral nerves where they enter the sphincter. A few droplets may also be injected beneath the sites of the skin incisions. The usual precautions in the use of a solution of this type must be observed, namely, avoidance of pooling in any one spot and avoidance of injection into the skin, which might result in a superficial slough, which, however, heals readily.

Rough handling of the tissues is avoided, and bruising clamps are applied, if possible, only to tissues which are subsequently to be removed. Operative trauma is reborn as postoperative pain. Similarly, in applying ligatures to bleeding vessels, avoid catching the skin and use as few ligatures as are compatible with security.

THE old fashioned gauze-wrapped rubber tube or "whistle" used as an anal packing is unequivocally condemned as unnecessarily painful. A strip of folded gauze or once-folded rubber tissue, well lubricated, with an anesthetic ointment if desired, is sufficient. It should not plug the anus tightly. This drain, after being loosened by a warm sitz bath if thought advisable, is removed in twenty-four hours and dressings are changed daily or more frequently thereafter.

Valuable adjuncts are postoperative morphine as required, mineral oil orally and warm olive oil by rectum before the first or any subsequent defecation. Following a bowel movement sitz baths, quite warm, are taken. In fact, moving the bowels during the early days while sitting in a basin of warm water is a very useful aid in allaying pain.

Prevention of Infection

THE routine preoperative cleansing and antisepsis of the rectum and perianal regions are not to be skimped merely because soiling is sure to occur later.

Keeping the bowels from moving for three days postoperatively, until granulation and healing have well begun, allows time for a partial tissue recovery from the operative trauma and increases the local resistance to infection. Earlier defecation is thus inadvisable as well as painful. Tinctura opii may be administered to bind the bowels for three days. The infrequency of any noteworthy infection after rectal operations may be due in part to a locally higher tissue immunity to rectal bacteria—the nature and extent of which might make an interesting immunological study.

The positive value of suturing anal incisions is questionable. On the other hand, it adds to trauma and should infection occur damage will be impeded; also it may be a factor in producing skin tabs. Anal and perianal incisions are ordinarily best left open to heal by granulation; the gradual return of tonus to the sphincter helps to bring the wound edges together.

Use of the so-called "pie-crusting", racquet-shaped or Y-incision, in which the arms of the Y embrace the hemorrhoid and point into the anus while the vertical leg extends into the skin radially away from the anal margin, tends to help the wound edges to fall together, provides a route for external drainage of wound secretions, and reduces edema.

Prevention of Postoperative Hemorrhage

If sharp instead of blunt dissection of the hemorrhoid is used, the scissors

should be kept in the natural plane of tissue cleavage to avoid dividing the small vessels in the submucous connective tissue. All definite bleeders are carefully ligated and oozing controlled by simple pressure.

The suture-ligature about the hemorrhoidal pedicle is tied with a double or triple knot, which is placed on the side toward the anal wall so that it will not be in the fecal stream and so that the pedicle stump will overlie and protect it from fecal friction. Chromic catgut rather than plain is used as a precaution against premature separation of the ligature, and sufficient of the pedicle stump is left to prevent the ligature from slipping. Burial of the stump toward the exterior may provide against concealed bleeding from it into the rectum and, in this connection, it is well to clear the rectum of blood or clots present at the end of the operation if there has been much bleeding, to permit drawing correct conclusions later if clots are found on the dressings.

Summary

1. Some historic and modern surgical methods of dealing with hemorrhoids are reviewed. The technic of the ligation and excision operation is described.

2. The incidence of postoperative stricture, skin tabs, pain, infection and hemorrhage may be greatly reduced by attention to specific important details in the technic.

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100 LINDEN BOULEVARD.



CLINICAL NOTES

A NEW

Antispasmodic Drug

IN GASTRO-ENTEROLOGY

FOR seven weeks a woman, aged 52, had severe abdominal pain immediately after eating. During this time she lost 18 pounds. There was a change in bowel habits; enemas gave no results, and laxatives increased the pain. Movements were hard. While the patient had worried a good deal, and had been working hard, she was not a neurotic, the emotional background being unusually good. The pain was so severe that she was forced to take codeine and morphine, without much benefit. Belladonna gave no relief.

During this period I tried various diets, bismuth preparations, and antacids, for the relief of the condition, but she grew steadily worse.

Roentgenologic studies of the stomach, pyloric valve, and duodenum showed no pathologic changes; fluoroscopic examination showed considerable spasm in the stomach and duodenum.

The clinical picture was one of obstruction, possibly due to malignancy.

A new synthetic preparation, the hydrochloride of diphenylacetyldiethylaminoethanol, in tablets, each containing 75 mg., was given orally, one after each meal, and the patient was told to follow her usual diet.

The relief was almost immediate. She did not complain of any more pain, and the symptoms of sour eructations, heartburn, and nausea disappeared. She has shown steady improvement while continuing the use of the drug.

I am reporting the results of the

MALFORD W. THEWLIS, M.D.

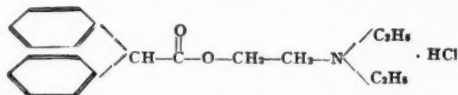
Wakefield, Rhode Island

use of this new drug to show the almost immediate relief in a patient who was steadily growing worse, whose

suffering was so intense that opiates gave little relief, and whose clinical picture was one highly suggestive of obstruction.

MEIER noted that this new synthetic preparation has the following structural form:

It has low toxicity, is not cumulative,



and gives the desirable effects of atropine, yet is devoid of the unpleasant side-actions of this drug on the heart, on the pupil, and on the salivary glands.

Einhorn¹ found that this drug is free from side-effects. In his case reports he noted that pain disappeared when due to gastric or duodenal ulcer, spastic colitis, and diverticuli of the duodenum. Excellent results were reported in some cases of hiccough.

Jackman and Bargaen² expressed the opinion that the drug acted similarly to atropine but did not have the usual action of atropine on the salivary secretions, and it proved to be more effective than atropine in its spasmolytic properties.

Johnson and Reynolds³ found that this drug had pronounced antispasmodic properties, but is not toxic, except when given in excessive amounts. It has no

appreciable cumulative action, has no marked circulatory affect, and is free from any measurable action on respiratory movements, even when large doses are administered.

The success of this new drug in treatment of this patient leads me to make further trials of its use in other conditions such as cystitis, dysmenorrhea, bronchial asthma, and spastic constipation.

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Glioma EXOPHYTUM

EDWIN NEWMAN BEERY, M.D., Brooklyn, New York

GLIOMA of the retina always presents an interesting problem both from the point of view of diagnosis and treatment. This tumor is derived from the neuro-epithelium, occurs in children and is malignant, which is in contradistinction to glioma of the optic nerve, which is derived from neuroglia and is generally benign. The tumor may be classified in two ways. Grinker,¹ on the basis of silver impregnation, distinguishes three groups: medullo-epitheliomas (arising from the pars ciliaris retinae), retinoblastomas and neuro-epitheliomas. This grouping is interesting in that it makes use of diagnostic terms which have been suggested by various writers to replace the term glioma. The classification generally used is based on the point of origin and direction of growth of the tumor: "glioma endophytum," from the inner retinal layers and growing inwards towards the vitreous, and "glioma exophytum," growing principally outwards in the subretinal space between the retina and choroid. Cutino and Lloyd² mention an additional type which is generally not recognized, glioma planum or diffusum,³ in which the tumor deposits are comparatively thin and level.

Glioma exophytum produces an early detachment of the retina by reason of its situation; the tumor masses lying in the subretinal space cannot be seen and the

diagnosis is difficult but can be made relatively early if adherence to all details is observed. In any doubtful case enucleation should be resorted to, especially if the eye is blind.

THE following case was presented at the regular staff conference of the Brooklyn Eye & Ear Hospital February 10, 1938.

M. P., an eight-year-old white female, was admitted to the clinic service of the late Dr. James H. Andrew in October, 1937. The mother stated that the child had always been in excellent health and that there had been no pre-existing ocular disease either on the part of the child or her family. It was also stated that whereas both eyes had always been blue, the left eye had been brown for two months, and that one month before admission vision began to fail. An optometrist was consulted who stated that *nothing* could be done for the eye. Subsequently redness and discomfort appeared in the eye and she was presented to us for examination. The question of glioma was debated and enough evidence adduced to confirm this diagnosis. The child was admitted for enucleation on November 1, 1937.

THE admission examination by the writer disclosed nothing of note in the right eye. The left eye was totally blind and presented the so-called "amaurotic

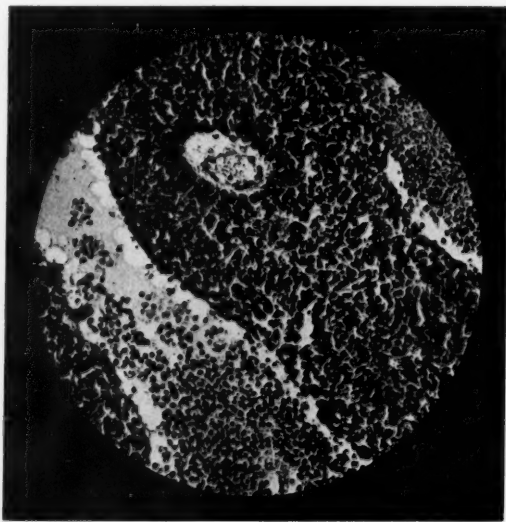
¹From the Brooklyn Eye and Ear Hospital; clinic service of the late Dr. James H. Andrew.

cat's eye." There was a moderate amount of ciliary injection and tension was increased to the fingers. Both with the ophthalmoscope and by direct illumination a large yellowish-white mass was seen in the lower nasal segment posteriorly which projected anteriorly to a distance short of the lens. Its surface contained new blood vessels. The vitreous contained many large free-ending opacities which apparently were organized and also contained new vessels. No details of the retina could be made out although it was considered to be detached, but on a level lower than the "tumor mass." Transillumination was faulty at the "tumor" site. X-ray showed enlargement of the left optic canal with transverse diameter 5.5 mm. and vertical 6 mm. The lateral view failed to disclose any foreign mass of calcium density (see below). Blood Wassermann reaction negative. Urinalysis within normal limits.

Under ether anesthesia enucleation was effected, using the scissors. The optic nerve was divided as far back as possible and the globe delivered. Moderately severe bleeding followed. This was easily controlled by hot tampons but on removal of each tampon the bleeding returned and at the end of thirty minutes of repeated tamponage it was decided not to further continue the anesthesia. A chromic gut purse-string suture was placed about the margins of Tenon's capsule in a position of readiness to tie. The tampon was replaced by a clean one, a pressure bandage applied and the child returned to bed and given 2 cc. hemostatic serum (Suero) intramuscularly and

7½ grains of calcium gluconate intravenously. Even though no bleeding returned the hemostatic serum was repeated after two hours and fifteen grains of calcium gluconate was ordered to be given by mouth twice daily. The following day she was again taken to the operating room and under ether anesthesia the tampon was gently removed and Tenon's capsule irrigated with a 2 per cent aqueous solution of mercurochrome. A glass ball was then implanted in Tenon's capsule and the suture which had been placed the previous day was tied. The conjunctiva was closed by a running untied black silk suture and the child returned to bed, where, as prophylactic measures against bleeding, she was again given 2 cc. hemostatic serum intramuscularly and 7½ grains of calcium gluconate intravenously.

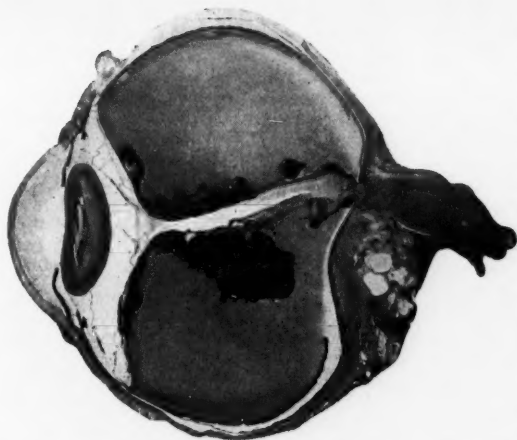
Healing was uneventful, and the suture was removed at the end of a week and the child sent home. When seen at the end of three months, and again after seven months and a year, the socket was healed nicely and the stump presented a fair degree of motility; the child was able to use her prosthesis un-



aided. The right eye continued to present a normal appearing retina and there was no evidence of recurrence in the left eye.

Discussion

THIS case presented interest for a variety of reasons, among which was the age of the patient. Most authors agree that the majority of cases occur before the age of 5 years. Duane's Fuchs' mentions an authentic case occurring be-



tween 15 and 16 years. Berens⁴ states that Verhoeff has reported a case in a man of 48 years of age. Such cases are extremely rare and Duane states that less than 2 per cent of cases are seen after the age of 10. (He also states that 20 per cent of cases are bilateral.) Clinically, the actual tumor was not seen (being of the exophytum type), although the color, new blood vessels on the surface and the increase in intra-ocular tension are typical findings and place this case into group 2 of the stages of the disease given by Fuchs.

Considered in differential diagnosis were fetal remnant, Coats's disease and certain other very rare lesions. It is well to point out here that fetal remnants are seldom yellowish but a dull white in color and are often associated with other stigmata of maldevelopment such as facial asymmetry.

Coats's disease, however, occurs in young adults (cf. Lloyd⁵ and Berens⁶) and is featured by large woolly patches of exudate occurring between the choroid and retina, later leading to detachment of the retina and secondary glaucoma. This is practically the only one of the pseudoglioma group which shows secondary glaucoma as a consequence and, as such, could be confused with the case in question.

At operation, the optic nerve was divided as far back as possible; measurement later showed that its section had occurred 9.5 mm. from the optic papilla.

Reese⁷ reported in 1930 that 52 per cent of a case series showed extension of the tumor into the nerve posterior to the lamina cribrosa and in 81 per cent of these surgical division of the nerve had not taken place craniad to the extension. The question naturally arises whether or not roentgen ray therapy should have been resorted to postoperatively as a prophylactic on the supposition that there might have been a small amount of extension which had escaped our detection. This we did not consider necessary, especially when subsequent

pathological examination failed to disclose extension into the nerve.

The bleeding encountered at the operation was a stubborn and apparently unusual complication of enucleation in that the implantation of the glass ball and the closure had to be postponed. It was at first thought that the cause might be found in sclerotic central vessels associated with a cranial extension of the lesion, but since this was not later confirmed we were forced to assume that the increased vascularity of the globe dependent on the tumor and its secondary glaucoma had produced vortical veins of unusual caliber. The other remaining possibility was, of course, that the ophthalmic vein or other tributary of the cavernous sinus had been severed. It was interesting to find that healing was not affected by the delay in the procedure.

PFEIFFER⁸ in 1936 reported 10 cases of a series of 14 retinoblastomas which showed a shadow of calcium density in clinical x-rays of the involved orbit. Attempt was made to exhibit this in the case under discussion but was unsuccessful. The half-globe pathological specimen was recently submitted to the roentgen-ray and showed a faint calcium density shadow but not of enough intensity to be visible in a clinical roentgenogram. The shadows reported by Pfeiffer were those of dense masses of calcium.

Dr. J. Arnold deVeer examined both the gross and microscopic specimens and

submitted a report that the retina was completely detached and surrounded by a soft, friable mass of pearly white tumor tissue (see figure 1), which under microscopic examination was found to be a typical retinoblastoma replacing parts of the retina and growing chiefly outward into the postretinal space; it had extended posteriorly about the retina as far as the optic nerve entrance and a thin layer of tumor tissue also was found covering the inner surface of the pigment epithelial layer. In the main portion of the tumor there was a considerable amount of necrosis with the actively growing tissue limited to cuffs or mantles of cells about the blood vessels (see figure 2); in several areas very discrete rosettes were seen. There was no evidence of extension of the neoplasm into the optic nerve or its meningeal cover-

ings and no invasion of the choroid was found although at many points it had grown between the pigment epithelium and the lamina vitrea. Although the vitreous contained several clumps of tumor cells scattered through its substance no tumor tissue was found anterior to the hyaloid membrane. The iris showed peripheral synechiae covering the angle tissue and was also adherent to the lens at the pupillary margin. It bulged slightly forward (iris bombée).

Summary:

AN unusual case of glioma exophytum diagnosed before operation is presented which was interesting because of the relatively advanced age of the patient and the stubborn hemorrhage complicating the removal of the eye.
118 GATES AVENUE.

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DUODENAL ULCER: THE VALUE OF THE ROENTGENOLOGIC DEMONSTRATION OF CRATER

FREDERIC E. TEMPLETON, A. W. MARCOVICH, Chicago and THEODORE E. HEINZ, Greeley, Colo. (*Journal A. M. A.*, Nov. 12, 1938), state that present day apparatus and technic have increased the frequency with which the crater of a duodenal ulcer can be demonstrated. The demonstration of a crater not only establishes activity but, as in the case of gastric ulcer, is useful in following the healing during a course of medical treatment.

MEDICAL JURISPRUDENCE

THE CONTINUED *Socialization* *of Medicine* VIA PUBLIC HEALTH

TO the
"most
complacent and
optimistic"

among physicians, it is evident that the practice of medicine "cannot escape the influence of the rampant socialism gripping this country." American labor, which "has already become a potent political factor," when it discovers that higher wages are nullified by higher prices, will demand that government provide some security against the uncertain costs of sickness. Physicians, in bargaining "with the people's representatives," perhaps cannot strike for all the ten points stipulated by The American Medical Association as essential for the best medical care, but must perhaps be ready to make reasonable concessions. This, in fact, has been done by the group of physicians who have recently publicly enunciated the four principles on which they based their nine proposals for medical reform.

There has been much discussion of the question of the economic aspects of medical practice—much of it prejudiced and "emotional" rather than rational. Most of "the pertinent facts and mature opinions" have been described in the reports of the Committee on the Costs of Medical Care, the Commission on Medical Education, and the American Foundation Studies in Government. The last named

An Abstract

The original article was read before the Society of Medical Jurisprudence on February 14, 1938, at The New York Academy of Medicine, New York, N. Y.

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recently published two large volumes under the title

"American Medicine," presenting evidence gleaned from letters of more than 2,000 representative physicians

from all parts of the country, and representing all branches of medicine. These surveys furnish sufficient evidence on which a rational program for "the impending further socialization of medicine" may be based.

The most important consideration is that the medical service shall be of the best quality; this is emphasized particularly by the Commission on Medical Education and also by the American Foundation. The medical profession must "steadfastly hold out" for the best quality of service. To maintain this quality, physicians, who are best able to determine and maintain this quality of service, must have "absolute control over both the personnel and the facilities devoted to medical service." But such authority will not be entrusted to them, even collectively, unless they are "willing to renounce the profits of private practice for contracts in public health service," or commissions corresponding to those of the officers of the federal public health services including the medical corps of the army and the navy. Unless some physicians at least are ready to make this sacrifice, they must be reconciled to the "political meddling" inherent in a system of public medicine

with the necessary supervision over individual competitive practitioners. This will result in lowering the quality of medical service. The "pernicious contamination" from politics is evident in the public schools under local and state control.

THE medical corps of the federal public health services, and of the army and the navy, are relatively free from political and "lay" interference. Subject to the rules and regulations of their respective corps, these officers have full responsibility for both the manning and the managing of the medical service. These corps have fostered "a superior quality" of medical service under these conditions. "Relieved of financial distractions, their members are more prone than civilians to recognize the healing powers of nature and their own limitations." They are encouraged to put prevention before cure. And prevention means more than prophylaxis, i.e., guarding against the external causes of disease and preserving health and vigor; it means also the prompt removal of internal conditions that may endanger health and life. And this involves an early diagnosis, which in turn may involve careful study of symptoms that seem trivial. In a central medical system of this type, the doctor becomes "an animate, not an inanimate, part of an organization imbued with an esprit de corps." He is stimulated to exert and improve himself, and has an opportunity to rise to positions of increasing responsibility. This type of organization also insures the strict regulation of the practice of medicine. Another important feature of such a service would be the complete personal health and statistical records that would be available. The lack of such records under the present system often complicates medicolegal cases, as well as making proper treatment difficult if a patient is transferred from one doctor to another or from a doctor to a hospital. Under such circumstances absence of a written report "has cost many a life." To the majority of doctors such a system would offer many advantages as compared with private practice under modern conditions or with contract practice under the control of bureaucratic laymen and politicians.

THE initiative of the individuals is not necessarily sapped in such a service. Promotion may be determined by ability to qualify—as in the navy above all but the lowest ranks. Examinations for such promotions are conducted by competent medical men not themselves in the "civil service." As a matter of fact, for some time most contributions to medical progress have come from private or public institutions and services manned by a salaried personnel working collectively.

An objection made to this form of medicine is that it "weakens the personal relation between patient and doctor." But under modern conditions, "the increasing complexity of our civilization is disturbing many individual relations of mankind." Corporate service is supplanting personal service in many fields because it is more reliable, economical and efficient. Specialization in medicine has already changed the relations between doctor and patient. The information in regard to a patient which the family physician once possessed can be supplied by permanent health records. Under public health service it is true the patient's choice of a physician would be restricted, but "so it has been for decades" for ward patients in hospitals; and so it is now for those who accept medical advice and treatment from ambulance surgeons, shop physicians, and school physicians. The freedom to select a physician does not actually benefit the patient in many instances as he may not know where to seek the best medical advice.

IT is said that public medicine would pauperize the people; this the author considers to be "mere quibbling." Education is free and universal; and health is obviously more important. It is difficult to gauge anything economically "so intangible, yet so vital," as medical service. A bit of advice given early may be worth more to a patient than the most spectacular and difficult operation later.

The lack of complete success of various socialized systems of medicine in foreign countries is brought forward against further socialization of medicine in the United States. Hence the *quasi-*

military services are suggested as more suitable here than any of the foreign organizations. The federal medical corps have proven satisfactory for the purpose for which they were organized—to keep the beneficiaries fit to work and play and restore them to fitness when they are ill. In the increasing sociological interdependence of persons in civilian life, “their medical requirements differ less and less from those of a military body.” Every one unable to engage in his usual occupation on account of illness or injury should have “an immediate physical examination.” Everyone may not require an annual medical examination; but any one planning to enter a new occupation should be examined to determine physical fitness. Persons of certain ages and under certain conditions need “overhauling” oftener than once a year.

A NOTHER objection to a free medical system is its possible abuse. The author considers that there is good reason to think that it will be “abused less in toto than the present multifarious and independent agencies.” The availability of complete health records will tend to correct abuses and to direct those who are really in need of aid to the best agencies for the relief of their condition.

The first principle for the socialization of medicine—that the control should rest primarily with the doctors—suggests the rational form of a system as outlined

above. The second principle, suggested by the voluminous literature on the subject, is that the socialization of medicine shall proceed in the lines of its present trend, gradually evolving from the present public health service into “neglected or unprofitable fields of private practice.” This may take the form of extension of laboratory facilities for diagnostic and therapeutic purposes, establishment of sanatoria for chronic arthritis, or regulation of the smaller private hospitals.

TO carry out the further socialization of medicine in America along the present lines, reorganization of many State health departments is necessary to free them from political control. A special legislative commission should be appointed with the State Commissioner of Public Health as chairman, with representatives from the army, the navy, and the federal public health service, and from the State Medical Society, industry, labor, the bar, and possibly others to draft a bill providing for a unified health organization patterned on the general plan of the three federal services named, with such features as would offer the best medical men a career for life. On such a plan the socialization of American medicine can “safely and soundly continue its present course *via* public health at a pace set by the citizens of each commonwealth” towards a universal system of public medicine.



THE UNIONIZING TREND REACHES ANOTHER FRONTIER

To the Editor of New York Post:

Sir—There have been for the last two months fruitless attempts to unionize the professional blood donors in New York. As a donor, the need for organization becomes more apparent and direct action must be taken.

The reasons for this are: (1) The introduction of the blood bank in a number of city hospitals, which means a lessened demand for the donor. (2) The fact that without representative policy to aid them the donors may be subject to arbitrary fee decreases by the hospitals and donor agencies.

This is a matter of public welfare as well as of concern to those engaged in the profession, as the public is largely dependent upon us as we are upon it.

WILLIAM PRUZAN.

MENTAL HYGIENE NOTES

Complaint Problem: As seen by patient's mother, centers upon the following data: "Doesn't seem himself. His behavior seems impulsive, such as holding his head back, claspings his neck or banging fists upon table or mantel. At times he displays an uncontrollable and inappropriate laugh, for example, during church service, and also again in school when his teacher corrected a boy. Moreover, he presents spells of walking up and down before going up to bed. On one occasion he stayed away from school because he imagined he had wet himself. On another occasion he stated, 'I know I'm crazy. People think there is something wrong.'" The complaint problem as seen by patient has to do with the hearing of "voices."

Present illness:

Patient was in his usual status of personality functioning until January, 1938, when he suffered dysentery for two weeks requiring his remaining in bed part of the time. At the end of this period he returned to school but at first his teachers, and later his parents, have observed that he has not been himself since that time of serious illness.

The onset of behavioristic changes was gradual. At first he began to lose interest in certain of his lessons, and this was associated with a general lack of pep following the dysentery mentioned. He did not seem to get built up to his previous form. It was also noted that he was unable to sit still in school or church.

Although he never liked French, the teacher of this subject especially complained that he was doing poorly in it. Nevertheless, he passed all of his examinations in June, 1938, being promoted from the second to the third year of high school.

As usual his summer vacation was spent in his parents' camp, but even here he seemed different—remained more to himself, although he always was introverted and never chummed with those of his own age, with the exception of a

male cousin six months his senior, an athletically geared boy.

When he returned to school in September of this year he seemed to do very well in his work for about a week. He then again began to lose interest. He presented a far-away look and did not pay attention when spoken to. Moreover, he was less inclined to go to the movies, although he had gone only once in the last two years. His usual indifference to playing with others became more pronounced. Practically all his time was spent in study or playing the radio. The day be-

fore the first consultation his mother became startled by his remark: "I know I'm crazy." That day he did not go to school, saying he was late. Most of this day he sat around and helped his mother with housework.

Patient's sleep is good but he has been lying down a lot during the day during the past month. Appetite is good and

CASE NOTES IN EXTRAMURAL PSYCHIATRY

Case IX

Schizophrenic Reaction
Type in a Sixteen-Year-
Old White Male

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there has been no loss of weight. On the other hand, however, he seems to have lost his former pep. His parents have thought he becomes melancholy and have observed that he will sit looking far off in a daydream state. However, he feels life is quite worthwhile; no suicidal tendencies observed. Scholastic achievement has been impaired, especially in French.

Personal History: Youngest of six children. Birth at full term, natural. Breast fed nine months. Developmental data within normal range. No early life neurotic traits noted. No serious past illnesses.

He began kindergarten at the age of five and got along "one hundred per cent until January, 1938." His teachers had regarded him as a State scholarship pupil when he entered high school.

Personality make-up is described as that of an awfully quiet boy, mild mannered. He always seemed indifferent to company, even other boys, with the exception of a lukewarm interest in the aforementioned cousin. He seemed different from the run of children of his age. During grade school his only hobby seems to have been the building of model airplanes and the studying and drawing of such pictures until the age of fourteen. He never got out and played with the boys although occasionally he would make a feeble attempt at football.

Patient is abstinent regarding tobacco and alcohol.

There has never been displayed any interest in the opposite sex. Auto-erotic habits were not observed and patient denies them.

Patient is a devout Roman Catholic but during recent months has not only been restless in church, but has laughed out loud in a way most embarrassing to his mother, who usually accompanies him to service.

Patient sleeps in an attic room to himself, residing with his mother and father and a nineteen-year-old sister in an upstairs apartment of a two-family house.

Family History: Father, age 57, well adjusted occupationally and socially. He experienced two operations during the winter of 1938 for gallstones and hernia,

but patient did not evince any anxiety or undue concern.

Mother, age 56, states she was quite introverted when a girl. As an adult she is well adjusted to family and social life. However, she describes herself as "nervous," with a tendency to over-concern when things do not go well. She has suffered from arthritis during the past year.

Patient is the only boy among five sisters, the oldest being twenty-nine and the youngest nineteen, all married with the exception of the latter and one who died at the age of three of influenza. The eldest sister is said to be inclined to nervousness and the same description is given of the third youngest sister.

Physical Examination: A tall, athletically built, but somewhat gawky, well-nourished boy of sixteen. Height five feet ten inches; weight 154 pounds. Blood pressure 130/88. Pulse 76. Teeth somewhat irregular in alignment. The general impression of face and habitus is one of mild incongruity. Cranial nerves: smell normal. Pupils equal, central and circular, react to light accommodation, no defects in visual fields, fundi negative. III, IV, VI negative. V negative. VII negative. VIII negative. IX, X, XI negative. XII negative. Motorium: No weakness of ataxia or fibrillations. Grips equal. Gait somewhat awkward with stooped shoulders and slightly bowed head. No tremor or ataxia. Speech somewhat hesitant and at times dwindles out with the finishing sentence. At other times speech seems somewhat blocked. No loss of sphincter control. Sensory: no loss of deep or superficial sensibility. No astereognosis. No loss of sense of position or vibratory sense. No tenderness of spine muscles or nerves, no pain or hyperesthesia. Reflexes: tendon reflexes all increased in activity. No clonus, no Hoffman, abdominals active, plantar flexors normal. Vegetative nervous system: hands very moist, otherwise normal. Endocrines: left lobe of thyroid slightly enlarged.

Mental Examination: Attitude and general behavior characterized by an offish manner and deep preoccupation. Face is unshaven. He presents a silly

grin. Marked tendency to ambivalence ("yes—no" production). Statements are guarded, hesitant, and evasive. There is very little spontaneity but a tendency to be impulsive in statements at times, although the goal idea is not clearly formulated. Mood, objectively, is that of silly affect changes out of proportion to the immediate situation. Subjectively patient states his spirits are "all right." He displays frequent furtive glances toward the window.

Asked if he had observed any change in himself lately he replied: "The voice . . . never feels bad . . . but . . . He talks through ventriloquism . . . somehow I think"

Does something make you say things? "At times it's permitted to be stopped. At other times it's so strong it can't be. Ventriloquism seems to come through my voice or through that . . . it may fear you . . . if you have telepathy it may draw it out."

Do you experience telepathy? "Sometimes, or else I imagine it. The imagination works on it and you tend to become like that person, anyone. If you turn completely . . . change places with someone . . . I may have . . . but imagination has been so strong, I don't know why I did it."

Have you strong imagination? "Two weeks last Easter it began to work. It was strongest at the middle of September. It began to decrease in power since."

Do people say things about you? "I never bother; just ignore it."

Do you hear voices? "I hear my name at times. It might be all in myself and nobody could be drawing it."

Are any influences played upon you? "All summer, I was and still am under the influence of telepathy."

Do you receive messages? "No. If imagination is used too much it grows and destroys itself. It's natural on me. During July I imagined I was in telepathy with heaven. Some of it was through fear."

Have you any fears? "No. My imagination worked on telepathy and took it away."

Do you hear anything from heaven? "I might at that."

Have you any visions? "No."

Does something make you say things? "Just remarks . . . you're crazy. The voice throws it in a circle and comes back to me. When you go to sleep it stops because nerves are all dead then. It is like something automatic. You get it when you think more . . . at times you can't stop it and try and forget and finally it stops."

What do you do to get rid of it? "Yes." The patient makes many spontaneous and irrelevant statements of remarks like "Why not?" associated with a knowing smile. This seems to be his stock answer to questions.

Although patient denies talking to himself, his parents have noticed that he, out of a clear sky, will suddenly laugh to himself. This has been increasing in frequency during the past half-year. Patient states he behaves so when "I think to myself."

Do you bang things? "Yes. Overflow of energy since the imagination has been working and influencing me since two weeks after Easter."

How did you get started? "Imagining . . . just telepathy. You imagine and you just dream. If you use it enough, brain wears out."

Did you say that you thought you were crazy? "Just imagination throwing through fear . . . just as good as anything else to say."

Sensorium is clear. Intelligence above average.

Diagnostic formulation: Schizophrenic reaction type, moderately pronounced. The understanding of this type of mental illness is one that regards it as essentially due to personality dysfunction on the basis of further distortion of a life-long tendency to pronounced introversion. The precipitating factors seem to have been the acute attack of dysentery, following which he has never been his usual self, and, indeed, has been showing more or less progressive signs of mental disintegration. The above picture is quite classical as to the outstanding characteristics of this mental reaction type. The odd, peculiar, and incongruous symptomatology may be regarded as defensive reactions based on inadequate habits of meeting life adjustments. In order to save face, he develops

a false strategy or unhealthy technique of meeting life situations with fancy-born mental processes and feelings which serve as escapes from the growing harshness of reality. The regressive forces of the unconscious tug at his enfeebled attempts to meet life realistically, and at times the latter, apparently, are too weak to offset the chimera.

Prognosis: Guarded. About ten to twenty per cent of patients with schizophrenia make spontaneous recoveries. Whereas formerly a diagnosis of schizophrenia was regarded ominously, the diagnostic descriptive term of "dementia praecox" being regarded in a literal sense, that is, as denoting a malignant and progressive deterioration of the personality beginning in early life, in recent years, our understanding and outlook on the disorder is decidedly more optimistic.

Progress Notes: During the past two weeks there has been very little change. He does not seem to realize he is sick. His father states that he has observed him talking to himself and laughing quite heartily when no one is around. It was also remarked that during the past year he has been answering newspaper advertisements of the Sandow (strong man) type. At times his mother fears that he may harm himself. This impression was gained while mentioning the fact of a chum's funeral last week. In inquiring as to how he feels, patient will say, "Oh . . . all right," and then give a silly smile and sigh. He is decidedly preoccupied and gazes out the window. For the past week he has not gone to school, as his mother feared he might say some inappropriate thing. Asked if he heard voices he replied: "No. That's just in the ear, isn't it? You draw it into yourself . . . a vacuum that makes the bones of the middle ear operate."

How do you draw it in? "I don't know . . . a vacuum between inner spiral coil and middle ear . . . the horn . . . I don't know."

How does the future look to you? "Inviting . . . I don't know . . . I might get a job somewhere . . . I should."

Treatment: In view of the fact that during the past three days he has been in better contact at home and has evinced a desire to return to school next week, the temporary plan is that he continue his attempt to adjust to the school and home situation. Should symptoms of progressive mental disintegration continue, it will be strongly urged that he receive the advantage of insulin shock or metrazol treatment in a mental hospital. In the meantime, every attempt will be made to urge him to stick to a definite 24-hour schedule of interests and activities. Every attempt should be made to knuckle him down to the brass tacks of reality. On no account should he be allowed to gaze into blank space spinning daydream material, but rather be enjoined to live in and through reality. To this end, parents and sister are capitalizing opportunities to do things with him. Father is making a special effort to pal up with him in various ways. At school the athletic director is trying to win over his interest in group exercises and in games. A regular schedule of retiring and arising is insisted upon, as well as good habits of eating and elimination. Notwithstanding mother's request for a nerve tonic, medicine is not prescribed, as it is felt that those responsible for his care and supervision should make a special effort to gain an understanding of the modus operandi of this illness and to realize that its cure lies in a reconditioning relative to essential psychobiological adjustment patterns of living.

214 STATE STREET.



SULFANILAMIDE IN TREATMENT OF BRAIN ABSCESS AND PREVENTION OF MENINGITIS

PAUL C. BUCY, Chicago (*Journal A. M. A.*, Oct. 29, 1938), reports the cure of an abscess of the brain and prevention of an almost certain hemolytic streptococcus meningitis by the administration of sulfanilamide.

Economics

Department Edited by Thomas A. McGoldrick, M.D., LL.D.

ECONOMICS OF RURAL MEDICINE

MY home is at Franklin, New York. Franklin is a small village situated in the dairy region of Delaware County.

My territory, shared by one other doctor, embraces a population of about 3,000 people, practically all farmers. This I think is evidence prima facie that my viewpoint is truly that of a country doctor. I do not know who the 60 families are that control the wealth of this country but I am quite sure that there are no country doctors among them.

It is equally true that no country doctor has a large income tax to pay and many do not even need to file a return.

In spite of all this I heard, not long ago, of a country doctor, well past middle life, who still clings to the delusion that he will become a millionaire.

Personally I used to hope to be able to retire some day, but I gave that up many years ago and have been much happier ever since.

The usual fee for an office call is \$1.00 and the fee for a house call in the village is \$2.00. Fees for calls outside the village increase as the distance increases.

The fee for obstetrical cases is \$25.00 for an uncomplicated case.

These figures are average, and as an average are probably correct.

Country doctors derive most of their income from fees. There are some lesser sources of income which will be mentioned later.

Read before the Conference on Rural Medicine at the Mary Imogene Bassett Hospital, Cooperstown, N. Y., October 8, 1938.

As seen from the viewpoint
of a country Doctor

LLOYD C. WARREN, M.D.
Franklin, New York

Fees for minor surgical cases such as accidents, etc., including simple fractures, vary according to circumstances—circumstances of the case, and circumstances of the patient. If it is a compensa-

tion case the fees are set, having been agreed upon by the Bureau of Workmen's Compensation and the State Medical Society.

Besides these we derive fees for insurance examinations, annual physical examinations and some other miscellaneous medical reports.

The appointment of health officer brings a small salary. The minimum is 15c. per capita of the town or village. Not many health officers get more than the minimum and of course only one doctor can be health officer.

ANOTHER appointment is that of school physician, and here, again, only one doctor gets it. The pay is at the discretion of the Board of Education and is usually about \$1.00 per pupil. The school physician must make a physical examination of each pupil early in the school year. He must also make calls at the school throughout the school year to attend emergency illnesses and accidents, and to pass judgment on suspects and contacts of contagious diseases. In the case of an epidemic, such as we had of measles last year, the school physician's salary was thoroughly earned, but usually it is a nice addition to the doctor's income.

It is not an easy thing to get a doctor to tell how much money he collects. However, after many exchanges of con-

fidence, an average gross income of \$4000 to \$6000 has been arrived at. Of course, there are many men who collect more than \$6000 and indeed there are those less fortunate who collect less than \$4000.

There is little use to discuss volume of work done that is simply charged on the books. That is not economics. That is a disease and the chief symptom of the malady is a headache.

While the doctor is collecting this gross income he is incurring some necessary expenses.

Probably the greatest single item of expense to a country doctor is his drugs and supplies. It is almost a necessity that he dispense his own medicines, and he cannot afford to use cheap, inert drugs, else it would reflect upon the doctor and not upon the pharmaceutical house that sold them to him. He must also have his own supply of surgical dressings, antiseptics, etc., for emergencies.

The rural physician must have a car, the horse and buggy days being history, and it must be ready to go, regardless of roads or weather or time of day or night. The car must be insured and must be exchanged for a new one after a year or two.

A COUNTRY doctor must have an office. The size of the office and the equipment in it depend somewhat upon the taste and the pride of the individual. Usually the office is as large and well-equipped as the practice warrants. Regardless of size or equipment, it must be lighted and always heated and ready for emergencies. Most of us have our offices in the house that we live in but apart and separate from our homes. This has its merits as well as demerits, but to most of us it is the more satisfactory arrangement.

Other incidental expenses such as books and journals, medical society dues, telephone, etc., are the same in the country as in the city.

All these necessary expenses incident to the practice of medicine, worked out on a percentage basis, amount to about 35 per cent to 40 per cent of the gross. Therefore if a doctor collects \$5000 he would have about \$3000 net. And the country doctor is not paid for an 8-

hour day with a 5-day week, but for a 24-hour day with a 7-day week.

AS to collections, a few figures taken from my own records are probably a fair average.

38 per cent of income consists of fees collected on the spot either in the office or in the home.

15 per cent from health officer's salary plus school physician's salary. These are paid once a year.

3 per cent from life insurance examination fees which are always paid the following month with no bills sent.

23 per cent comes from town and county for treatment of indigents and old age pensioners. These bills are a great source of annoyance to most of us. In the first place, it is necessary to secure authorization from the welfare officer; then we are limited as to fees, \$1.00 for an office call and \$2.00 for a house visit. It makes no difference whether the house is across the street or ten miles away the fee is \$2.00. Again, we are limited to one call per day and ten calls for an authorization.

After that, if all the investigators report favorably, we may render a bill. This bill must state the date of each call, the name, age, and sex of the patient, the diagnosis and treatment rendered, and also the condition of the patient at the end of each day.

The bill must be made out in triplicate and presented on a certain day to the welfare officer. If the bill is approved the doctor will receive a check, but if not the bill may be returned for correction, or it may be rejected entirely.

FOR the remaining 21 per cent we must send bills and wait a variable length of time. It has been said that if an account freezes twice it is dead, i.e., that if the debtors do not pay the second summer they never will. Forced collections, either in the courts or through so-called collection agencies, are quite unsatisfactory.

There seem to be classes of cases that pay and others that do not. Automobile accidents, as a rule, are about 100 per cent charity.

The local doctor is called or the injured party is brought to his office. He

renders first aid and if the condition is serious he sends (or perhaps takes in his own car) the patient to the hospital. If the condition is not so serious he sends him home or on his way. But in either event the doctor does not collect.

Obstetrical cases are about a 50 per cent loss. Here is one place where the Browns do not keep up with the Joneses. If Mr. Jones pays, Mr. Brown does not. And Mr. Smith pays one-half of the bill at delivery, but never finishes the bill unless there is a prospect of another baby.

THE boys with venereal diseases never come back to pay. Advance payment or C.O.D. is the only method with them.

Then there are classes of people that pay and those who do not. Even in a rural community we have some people so comfortably situated that they can and will pay their bills promptly, including doctor's bills.

Of course, indigents' bills are paid, provided the doctor meets all the fore-mentioned requirements.

But between these two classes is the class of people who are trying to get along. They can secure food and clothing and shelter for themselves but they cannot possibly pay a doctor's bill and much less a hospital bill. This class is increasing in numbers and, sadly enough, is taking its recruits from the class above. Of course, at the same time many are falling into the indigent class.

THE economics of rural medicine is affected by trends. The fat years and the lean years, that the Bible tells us of, reflect upon us as well as the rest of the country. Back in those terrible 20's we all had money. But in these lean 30's we are all more concerned about how we are going to meet bills payable than we are about whether to buy General Motors or stick to the rails.

Our incomes increased gradually after we got back from the War, reaching a peak in 1929. From 1929 to the end of 1936 was a noticeable fall, then a slight rise in 1937. But 1938 looks like

a decidedly downward dip.

Advances in sanitation and public health have diminished the country doctor's income. We do not oppose this, in fact we favor it, and help in the work. I have been health officer myself for twenty-five years; and only last week gave fifty-five more free toxoid injections.

But notwithstanding all this, there is still less diphtheria, typhoid and pneumonia for us to treat, so, from a purely economic point of view, public health and preventive medicine are against us.

HOSPITALS are taking a toll from rural doctors. People are becoming educated to appreciate the benefits of hospital treatment in an increasing number of conditions and we encourage them. But, all the same, we lose them when they go. After they go we have the telephone tolls to pay when anxious families want to know about the patients' condition. In spite of all this we are glad of the hospitals with all the fine equipment to make diagnoses and render treatment to our patients, that could never be done in their homes.

It would not be fair to omit the fact that more and more good roads and better automobiles have made the day's work shorter and easier, leaving more time and energy for recreation.

THE question has been asked, What does the country doctor do when he is short of money? Does he engage in illegal practices? I think *not*. Some doctors and usually *not* country doctors do engage in illegal practices, but I would not say that even they did it because they were short of money. The only answer is that when a doctor is short of money he must spend less, or else go in debt, and obviously that could not carry him very far.

In a word, the economics of rural medicine is the economics of the rural community in question.

If the people prosper the doctor will prosper too, and if the people do not prosper the doctor cannot prosper.



Associated Physicians

OF LONG ISLAND



**41ST ANNUAL MEETING TO BE HELD
ON SATURDAY, JANUARY 28TH, 1939
IN BROOKLYN, NEW YORK.**

THE Annual Meeting of the Associated Physicians of Long Island will be held at the Norwegian Hospital, 4520 Fourth Avenue, Brooklyn, New York, on Saturday, January 28th, 1939.

The scientific program at the Hospital will comprise dry clinics with case presentations in the morning and short scientific papers of ten minutes each at the afternoon session. Detailed program follows.

Morning session at 10:00 A. M.

Dry Clinic with case presentations:

"Demonstration of the Use of the Miller-Abbott Tube", Dr. Milton Hoeft.

"Anemias of Children", Dr. George Brancato.

"Presentation of Twelve Cases of Epithelioma of the Lip with Various Methods of Therapy", Dr. Gregory Robillard.

"Hypoglycemia — Case Presentation", Dr. Francis P. Ferrer.

"Osteogenic Sarcoma of Femur with Recovery Case Presentation", Dr. Pedro Platon.

X-ray Demonstration and Exhibits, Dr. John J. Masterson.

Pathological Exhibits, Dr. Gregory L. Robillard.

Luncheon 12:30 P. M. as guests of the Hospital.

Afternoon session, presentation of ten minute papers:

"Ulcerative Tonsillitis", Dr. Ernest Brooks.

"Syphilis in Pregnancy", Dr. William T. Daily.

"Clinical Aspects of Thymus Enlargement in Children", Dr. Charles M. Fisher.

"Lipoid Pneumonia — Histological Demonstration", Dr. John A. Monfort.

"Ambulatory Treatment of Peptic Ulcer", Dr. Bernard A. Fedde.

"Carcinoma of the Large Bowel", Dr. Gregory Robillard.

"Physiological Supportive Plan of Pneumonia Therapy", Dr. Edward E. Cornwall.

At 4:30 P. M. the annual business meeting with election of officers and new members will take place.

Following the Executive session, the members will go to the Medical Society of the County of Kings building, 1313 Bedford Avenue, Brooklyn, to dedicate and unveil a bronze plaque which is to commemorate the founding of the Associated Physicians of Long Island in Brooklyn forty years ago.

At 6:30 P. M. the annual dinner will be held at the Montauk Club, 8th Avenue and Lincoln Place, Brooklyn. Following the usual good fellowship which occurs at these dinner gatherings, it will be topped off with a very interesting address by the Honorable Hugh H. Clegg, Assistant Director of the Federal Bureau of Investigation. As a division of the Department of Justice, famed for its work in combating kidnappers, Mr. Clegg's remarks will bring to us a first hand acquaintance with the workings of this important department of our governmental machinery.

TONGUES, NECKS AND GLASS HOUSES

It may be noted of late, by the frequent newspaper comment on the doctors of the A. M. A. and their way of making money and ethics, that the editors are sticking the tongue out. Now, these editors in their glass house occupancy, it appears, also have the neck out, Ha, ha, ha, laughter, kinda.

—HARRY NELSON JENNETT, M.D.

MEDICAL

HISTORY

Interesting illustrations culled from the pages of Medical Literature that present sidelights on the professional scene of yesteryear.



Conversazione at Surgeons' Hall

Contemporary Progress

+ Medicine +

The Anemia of Alcohol Addicts

A. BIANCO AND N. JOLLIFFE (*American Journal of Medical Sciences*, 196:414, Sept., 1938) report a study of 184 cases of alcohol addiction. In 159 cases there was some complicating condition—polyneuritis, pellagra, "alcoholic" stomatitis, "alcoholic" encephalopathy or cirrhosis of the liver; in 25 cases none of these complications and no other "recognized stigmata" of chronic alcoholism were present. Definite anemia was found in 61 per cent. of the complicated group, but not in any of the uncomplicated group. However, macrocytosis was found in about 50 per cent. of both groups. In the complicated group, the macrocytic anemia was found not only in patients with pellagra and cirrhosis of the liver, but also, and with almost equal frequency, in patients with polyneuritis, stomatitis and alcoholic encephalopathy. No correlation was found between the frequency of macrocytosis and the occurrence of achlorhydria, the severity of liver damage, or the presence of an enlarged liver. These findings indicate that the macrocytosis and macrocytic anemia of alcohol addiction are not due to the inability of the liver to store a hematopoietic principle but rather to an extrinsic deficiency of some necessary hematopoietic substance. It is now generally believed that such diseases as pellagra, polyneuritis and cirrhosis of the liver occurring in chronic alcoholism are not due to the direct action of alcohol, but to some associated factors, and especially to the irregular and usually "definitely inadequate" diet that results from frequent and prolonged drinking. Such inadequate diet most probably also involves a deficiency of the extrinsic hematopoietic principle necessary to maintain normocytosis.

MEDICAL TIMES, JANUARY, 1939

COMMENT

The blood of the patient with chronic alcoholism quite often shows macrocytosis. I have examined the bloods of many of the alcohol addicts at Dr. Durfee's farm, and anemia is not a common finding amongst these patients. In those who do have anemia, it is surprising how quickly the blood improves when the patient resumes a normal diet and an outdoor life. In my practice, I believe I find as many patients with macrocytosis who are on deficient diets, and who do not take alcohol, as I do in the run of patients that I see at the Durfee farm. In any event the anemia is due to a diet deficiency, and, in the case of the alcohol addict, it is when he drinks that he does not eat.

M.W.T.

Thiocyanate Therapy in Vascular Hypertension

EDWARD MASSIE, C. B. ETHRIDGE AND J. P. O'HARE (*New England Journal of Medicine*, 291:736, Nov. 10, 1938) report the treatment of 14 cases of vascular hypertension with sodium thiocyanate. All of the cases treated were uncomplicated hypertension with good cardiac and renal function; in one case a second study was made after a year's interval. Before the administration of the thiocyanate was begun, there was a control period of three months during which "all direct therapy" was discontinued. Then the sodium thiocyanate was given for three months; and the patients were under observation for a subsequent period of three months. The sodium thiocyanate was given by mouth in such dilution that 4 c.c. of the preparation used contained 0.2 gm. of the drug. In some cases treatment was begun with a daily dosage of 0.8 gm. for the first two days, reduced to 0.6, 0.4 and 0.2 gm. on consecutive days thereafter; in other cases the initial dose was 0.6 gm. for four or five days, then reduced to 0.4 and 0.2 gm. In every case the dosage was determined

according to the cyanate content of the blood. The optimum level of the blood cyanate was found to be between 5 and 7 mg. per cent. In all cases there was a definite lowering of the blood pressure during the period when the sodium thiocyanate was given; the average fall in systolic pressure was from 66 to 21 mm., and in diastolic pressure from 33 to 8 mm. This was accompanied in 12 patients by definite relief of symptoms, especially of headache, nervousness and vertigo. Toxic symptoms were usually slight—a transient feeling of weakness and occasional mild epigastric distress; in one patient, however, marked weakness with nausea and vomiting occurred, and another had three attacks of angina pectoris. The authors are of the opinion that thiocyanate therapy is of definite value in hypertension, if dosage is controlled by blood cyanate determinations and patients are carefully selected; but the clinical application of this therapy "is somewhat limited by these requirements."

COMMENT

An interesting report from careful observers. It probably will not find any extensive use in clinical medicine.

M.W.T.

The Parallel Action of Vitamin C and Calcium

S. L. RUSKIN (*American Journal of Digestive Diseases*, 5:408, Sept., 1938) reports studies on a combination of calcium and vitamin C—calcium cevita-

mate—which shows that cevitic acid (vitamin C) has a marked action in promoting the ionization of calcium and thus its utilization by the body. A comparison of the physiological action of cevitic acid and calcium also shows "an almost completely parallel action in bone metabolism, hemorrhagic diathesis, cell membrane permeability and detoxicating action." From the practical therapeutic standpoint the author notes that calcium cevitamate is non-irritating when

injected either subcutaneously, intramuscularly or intravenously, and is also well tolerated by the gastro-intestinal tract. Thus, he considers that a new therapeutic agent for calcium therapy is available, "which possesses the marked advantages of greater solubility, absorbability and complete calcium action."

COMMENT

It would seem that calcium cevitamate may have therapeutic possibilities.

M.W.T.

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Focal Infection and Rheumatoid Arthritis

R. L. CECIL and D. M. ANGEVINE (*Annals of Internal Medicine*, 12:577, Nov., 1938) report a study of 200 patients with typical rheumatoid arthritis; the red cell sedimentation rate was accelerated in 93 per cent. of these cases; and the agglutination reaction with a strain of hemolytic streptococcus was strongly positive in 65 per cent. In the study of these cases, a definite focal infection was demonstrated in 20 per cent. and "a questionable focus" in 10 per cent. The fact that 70 per cent. of these patients showed no definite focus of in-

fection at the time of the study is explained by the fact that the oral hygiene in these cases had been carefully supervised before they came under the authors' observation. Only 19 patients gave a history of an acute infection of the upper respiratory tract preceding the onset of arthritis. The tonsils had been removed in 92 cases, or 45 per cent., although there was a history of tonsillitis or sore throat in only 15 per cent. The tonsillectomy had no effect on the course of the arthritis in 86 cases, and in 2 cases it caused a severe exacerbation; 4 cases showed temporary improvement. Fifty-two of the patients had had some, and many of them all of their teeth removed; there was no benefit in 47 cases, and in 3 cases the tooth extraction was followed by an "acute flare-up" of the joint symptoms. Thirty patients gave a history of sinus disease; 12 had been treated for sinusitis because of the arthritis; in 10, the treatment did not benefit the joint symptoms, and in 2 cases it caused an acute exacerbation. When rabbits were injected at various sites, but not intravenously, with hemolytic streptococci, arthritis was produced in only 11 of 100 animals, and only in those animals from which streptococci were recovered from the blood stream shortly after injection. The authors conclude that "the time has arrived for a complete revaluation" of the focal infection theory of rheumatoid arthritis. Some cases of this type of arthritis are undoubtedly due to focal infection, but this study indicates that chronic focal infection "plays a comparatively unimportant role" in typical rheumatoid arthritis.

COMMENT

This verifies the general impression of most specialists in this field who believe that focal infection does not play a very important part in the causation of rheumatoid arthritis. As a matter of fact, it would seem that this disease is due to an unknown infection which probably infects the teeth, tonsils, and other organs, through the blood stream. Therefore, the focal infection is a result of the disease and not a cause. However, there are some patients who evidently improve after the foci of infections are removed, but this is not the rule. Several years ago it was the

vogue in medicine for wholesale extraction of teeth and tonsils; today in many medical centers the pendulum has swung just as far in the opposite direction, and patients are allowed to go about with diseased teeth and tonsils. There is a possibility that the focus of infection might lower the body resistance sufficiently to enable the unknown infection causing rheumatoid arthritis to gain a foothold. Good preventive medicine demands the removal of all foci of infection in patients who, apparently, are in good health.

M.W.T.

Magnesium Trisilicate in the Treatment of Peptic Ulcer

C. J. TIDMARSH and R. G. BAXTER (*Canadian Medical Association Journal*, 39:358, Oct., 1938) report the treatment of 26 cases of peptic ulcer and 10 cases of functional indigestion with magnesium trisilicate, using a preparation that conformed to the standard requirements of Mutch. Of the 26 ulcer cases, 22 were duodenal ulcer, 3 of them complicated by massive hemorrhage, and 4 were gastric ulcer. The ages of the patients varied from twenty-four to sixty-five years with a large majority in the third and fourth decades of life; the duration of symptoms varied from several weeks to fifteen years. In the ulcer cases, treatment consisted in a liberal bland diet with intermediate feedings of milk every two hours from 8 a.m. to 10 p.m., for six to eight weeks; in the cases complicated by hemorrhage the full diet of the Meulengracht regimen was used. A low-residue diet was employed in the cases of functional indigestion. In all cases doses of one dram of the magnesium trisilicate preparation, containing 35 gr. of the trisilicate, were used, and the number of doses to be given daily determined according to the degree of gastric hyperacidity and the clinical progress. Thus at the beginning of treatment patients with ulcer were given 6 drams daily—in 2 cases, 8 drams. Under this treatment the ulcer pain diminished in frequency and severity within forty-eight hours. After the more severe symptoms disappeared, the dosage was reduced to four drams daily. Treatment was continued until gastric analysis and the x-ray showed no evidence of ulcer. If high acidity continued, patients were

advised to take 2 to 3 drams of the magnesium trisilicate daily. Of the 36 cases 22 were completely relieved of symptoms, including 16 ulcer patients and 6 with functional indigestion; 10 showed marked improvement, including 3 cases of functional indigestion. There were only 4 cases in which the treatment failed—3 cases of duodenal ulcer, and one case of functional indigestion—the latter complicating heart disease. One of the patients with duodenal ulcer that failed to improve subsequently came to operation; a large duodenal ulcer penetrating into the pancreas was found. Six ulcer patients who were nervous and showed marked pylorospasm and spastic colon were given a special mixture containing 1/500 gr. of atropine sulphate and 1/4 grain of phenobarbital to each dram of the magnesium trisilicate preparation.

COMMENT

Apparently magnesium trisilicate acts more satisfactorily if taken two hours after meals. It can be obtained in 7 1/2 grain tablets, and the dose is 45-90 grains a day.
M.W.T.



Pathogenic Bacteria in the Air of Operating Rooms

DERYL HART (*Archives of Surgery*, 37:521, Oct., 1938) states that since he published a report in 1937, in regard to the presence of pathogenic bacteria in the air of operating rooms at Duke Hospital, a similar study has been made at his request in other hospitals; reports have been received from 37 operating rooms in 33 hospitals located in 17 states. In these studies Petri dishes of blood agar were exposed to the air at various points in the operating room for one hour, and incubated for forty-eight hours. The findings are tabulated, and the author emphasizes the following points brought out by the study: As a rule, the number of pathogenic bacteria in the air of a room increases with the number of occupants and the duration

of occupancy; the bacterial count drops when the room is unoccupied and closed. A canopy over the sterile supply table is of some value in preventing contamination of such supplies, but such supplies should not be exposed to sedimentation of bacteria from the air of the room for more than one operation; and during that time they should be protected as far as possible. The report from one hospital showed an increase in the number of bacteria in the air at the time of increased prevalence of respiratory infections. The majority of the pathogenic bacteria found in these studies were staphylococci. Infections of surgical wounds is due in 90 per cent. of cases to staphylococci, in the author's experience. As staphylococci are present on the skin, such infections have been attributed to poor technique in skin disinfection, but the present study indicates that such wound infection is more frequently caused by contamination of the wound or the sterile dressings by bacteria "dropping" from the air of the operating room. In one hospital reporting, when a heavy sedimentation of *Staphylococcus aureus* from the air was demonstrated during the study, 3 cases of wound infection with this organism occurred. Streptococci were found in relatively small numbers in the air of the operating room in this study; during epidemics of respiratory tract infection, when this organism is present in the nose and throat of many persons, it is probably present in the air of operating rooms in large numbers. Air conditioning removes most of the nonpathogenic organisms from the air and diminishes the concentration of the pathogenic organisms, but the most effective method of sterilizing the air of the operating room has been found to be bactericidal irradiation, which is now employed at the Duke Hospital.

COMMENT

This is a timely article suggesting the wisdom of culturing the air in operating rooms at definite intervals and adopting some sound, proven method for effective sterilization thereof. Atmospheric infection of wounds may not be frequent, but the omission to observe conditions and reduce infection to a minimum is a fault in tech-

nique. The "danger is slight but positive" and can and should be largely eliminated.

C.H.G.

Repair of Abdominal Incisions

A. O. WHIPPLE and R. H. E. ELLIOTT, JR. (*Annals of Surgery*, 108:741, Oct., 1938) describe their technique for the closure of abdominal incisions. The same technique is employed in both transverse and vertical incisions, in both the upper and the lower abdomen. Peritoneum and posterior rectus sheath or transverse fascia are sutured with continuous fine C silk or No. 00 chromic catgut, followed at 2 cm. intervals with interrupted sutures. The anterior rectus sheath and oblique muscles (in the transverse incisions) are repaired by a "vertical figure of eight" or what the authors call the "far-and-near stitch" at intervals of 7 to 8 mm. "This stitch is begun by introducing the needle 5 mm. from the edge of one sheath, out through the margin of the other edge, into the margin of the first edge and out 5 mm. from the margin of the opposite sheath." The two edges of the sheath are approximated by slight tension on the suture ends; the sutures are tied loosely with a square knot, and the entire suture is "tensionless", which prevents tissue necrosis. With proper hemostasis, there is no need for subcutaneous sutures. Interrupted silk sutures on separate cambric needles are used for closing the skin. The use of the separate needles avoids contamination of the silk by repeated puncture of hair follicles and sweat glands with the same needle and suture. In a comparison of the incidence of wound disruption and infection in cases sutured by this method, both with silk and catgut, with results obtained in a control series repaired with chromic catgut in the usual way, it is shown that these postoperative complications are reduced to a minimum in the authors' series. The postoperative incidence of hernia was also low in the authors' series—2.46 per cent.—as compared with the 14.77 per cent. in the control series. All the hernias in the authors' series occurred in cases in which catgut sutures were used, none with silk. The authors tend to employ silk sutures for all abdominal work "more and more"; the silk must be of very fine grade.

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COMMENT

An interesting study with some valuable points emphasized. The discussion is almost as valuable as the paper. The results in lowering of incidence of wound disruption demand attention even if one is not satisfied that the record constitutes proof. We must remember, as we are here reminded, that the amount of foreign material buried in tissues and the size of sutures and their knots are important considerations in the reactions of tissues and the invitation to infection. The use of separate skin needles is established as a reasonable and just precaution.

C.H.G.

Mixture of Coconut Oil Derivatives as a Bactericide in the Operating Room

C. W. WALTER (*Surgery, Gynecology and Obstetrics*, 67:683, Nov., 1938) notes that the bactericide to be employed in the operating room must possess cleansing properties, power of penetration, and good skin tolerance in addition to being an active germicide. The bactericidal activity of coconut oil radicals has long been recognized; and this has been enhanced by incorporating these radicals into benzyl-ammonium chloride compounds, forming high molecular alkyl-dimethyl-benzyl-ammonium chlorides. This compound has been tested in several laboratories and its bactericidal efficiency definitely established. The aqueous solution, when diluted for topical application, has "wetting, detergent, keratolytic, emulsifying, and emollient properties." In experiments on guinea pigs, repeated daily intraperitoneal injections of dilute aqueous solutions of the compound produced no cumulative toxic effects, and caused little if any local injury. Routine skin tests with the compound on patients who were being tested for allergic reactions produced no reaction. A 1:1000 aqueous solution has been used for preoperative skin disinfection in 2000 cases; in all cases it was well tolerated; the skin was left smooth and clean and showed a "rosy blush" over the prepared area. This aqueous solution has also been used as an "arm soak" following the usual surgical scrub, and did not cause skin irritation. Surgeons have also reported satisfactory results with its use in the glove basins; the compound left

the skin soft and supple and did not cause discoloration or breaking of the nails. Full thickness biopsies of the skin from various operative fields prepared with this compound were taken in 75 cases; 73 per cent. of these showed no growth of bacteria after ninety-six hours; of the 25 positive cultures, 21 showed staphylococci; bacterial growth occurred chiefly in biopsy specimens from the abdomen. The author concludes that the properties of this compound—good skin tolerance, low toxicity, detergent action, and bactericidal efficiency—recommend it for use in the operating room, for skin disinfection of the operative field, disinfection of the hands of the surgeon, the glove basins, and sterilization of instruments that cannot be sterilized by heat. Metal instruments cannot be stored in the solution, but it does not damage optical instruments, rubber goods, shellac catheters, paraffin mesh, or gutta-percha tissue.

COMMENT

Novel technique with minimum of infection and skin irritation following its use.

C.H.G.

Preoperative Investigation of the Vital Capacity

H. K. LASSEN (*Acta Chirurgica Scandinavica*, 81:343, Nov. 3, 1938) reports a preoperative study of the vital capacity in 359 surgical cases. It was found that postoperative pneumonia occurred as frequently in patients with normal vital capacity as in those with diminished vital capacity. Of the 160 patients with normal vital capacity only 2 died postoperatively with circulatory insufficiency; the mortality from circulatory insufficiency was 5.2 times greater in those with diminished vital capacity. In 230 patients examined by electrocardiography and x-ray examination of the heart in addition to determination of the vital capacity, there were 10 deaths; estimation of the vital capacity indicated the risk of circulatory failure in 8 of these cases, the other methods routine administration of Vitamin B₁, of examination in 5 to 7 cases.

COMMENT

Here is sufficient evidence to warrant an addition to our routine preoperative investigation.

C.H.G.

Vitamin B₁ in the Preoperative Preparation of the Hyperthyroid Patient

W. D. FRAZIER and I. S. RAVDIN (*Surgery*, 4:680, Nov., 1938) note that some highly toxic patients with hyperthyroidism, while showing a definite fall in the metabolic rate, under preoperative iodine therapy, continue to show tachycardia, anorexia and weight loss. Some of these symptoms and the characteristic disturbances of carbohydrate metabolism in hyperthyroidism suggest the probability of a vitamin B deficiency. In a series of cases of hyperthyroidism, the routine preoperative treatment consisted of bed rest, high caloric, high carbohydrate diet, saturated solution of potassium iodide, 5 to 10 minims three times a day, sodium bromide and phenobarbital. One group of 28 patients in this series was used as a control group; another group of 50 patients was given crystalline vitamin B₁ by hypodermic injection, 10 mg. every other day; and 10 gm. brewers' yeast by mouth daily. The two groups showed no significant difference in the lowering of the basal metabolic rate, but the group receiving vitamin B₁ showed definite improvement over the control group in the degrees of reduction of the pulse rate, increase in appetite and gain in weight; and also in that they required a shorter period of preoperative preparation. This improvement in the vitamin-treated group was most marked in the more toxic cases.

COMMENT

In this study, Vitamin B₁ (or thiamin) assumes an essential role in preventive medicine. So much postoperative mortality and morbidity in cases of saturating hyperthyroidism have apparently been due to impatience and disregard of diagnostic findings that these authors have added another requisite for a patient to be labeled "operable at this time." On the other hand, the whether a deficiency should be proven or not, would harm none of them. Of course,

both groups of patients considered were rather small and a number of such series reported from different clinics would be necessary to establish the administration of Vitamin B₁ as a routine necessity in the preparation of the hyperthyroid patient. Nevertheless we see here one more commendable effort to surround these toxic patients with safeguards. Thoughtful conservatism in the selection of time for partial or maximum sub-total thyroidectomy is a sine qua non if we would safeguard our patients as nearly the desirable 100 per cent as is possible.

C.H.G.



Permanence of Recovery in Acute Glomerulonephritis

E. N. LOEB AND HER ASSOCIATES AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK (*Journal of Clinical Investigation* 17:623, Sept., 1938) report a study of 10 patients who had an attack of glomerulonephritis preceded by hemolytic streptococcus infection in 9 instances and in one case by Type I lobar pneumonia. All these patients recovered from the acute attack, the urine becoming entirely normal, indicating that the renal lesion had healed. They were followed up for periods of 9 months to ten years. Each patient subsequently developed a second infection proved to be due to hemolytic streptococcus in 9 cases, and probably due to this organism in the 10th case. Eight of the patients showed no signs of renal involvement in the course of this second infection; 2 developed transient gross hematuria without significant albuminuria. None of the 10 patients developed the chronic form of glomerulonephritis. These observations are supported by the findings of Archley and Loeb at the Presbyterian Hospital, and by the experience of one of the authors (J. D. Lyttle) at the Babies' Hospital. None of these investigators have ever observed the development of chronic glomerulonephritis in a case of acute glomerulonephritis that healed.

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COMMENT

The interesting facts about this study are two. The first is what might be called a local immunity in the kidneys to the *Streptococcus hemolyticus*, otherwise it is difficult to explain why eight patients showed kidneys not affected by the second infection.

The second point is the unfortunate omission as to the presence or absence of these organisms in the urine in cultural activity during the second attack. If present, then one might assume an increased power of the kidneys produced by the first attack to filter out the organisms during the second attack, without symptoms except the transient hematuria in two cases.

V.C.P.

Therapeutic Management of Urinary Infections

ALEXANDER RANDALL and ROLAND HUGHES (*Annals of Surgery* 108:903, Nov., 1938) note that all infections of the upper urinary tract are secondary to infections elsewhere in the body. They may be classified according to their origin as "primary hematogenous", in which case they remain principally in the kidney; and "urogenous", in which the infection begins principally in the male or female adnexa, but involves the urinary system, "producing dynamic disturbances of urinary transportation." In the female, adnexal infection can be successfully treated surgically, and if the focus of infection is removed sufficiently early, serious urinary tract damage can be avoided. In adnexal disease in the male—chronic prostatitis and seminal vesiculitis—surgical treatment is not so successful as in the female, but such foci of infection must be given "persistent and appropriate treatment." In regard to the use of urinary antiseptics by mouth, the authors consider mandelic acid and sulphanilamide are the two most widely indicated. But the therapeutic action of both of these depends upon adequate renal function. Another factor in the successful treatment of urinary tract infection is the establishment of free urinary drainage, especially the removal of any mechanical obstruction. Of the two urinary antiseptics employed, the therapeutic action of mandelic acid depends

upon acidity of the urine; it is most effective in *Streptococcus fecalis* infections, and useless in *Proteus* infections, as in the latter the urine cannot be rendered sufficiently acid. The authors consider that, except in *Streptococcus fecalis* infections, sulphanilamide is the urinary antiseptic of choice. In acute infections, the authors employ a dosage of 60 gr. a day for three days reduced to 40 gr. daily for another four days, with restriction of fluid intake to 1500 c.c. daily. In chronic infections, 40 gr. daily are given for a week and fluid restriction is not necessary. The daily dosage of sulphanilamide is always given in divided doses. Sulphanilamide is effective in alkaline urine, and is of special value in *Proteus* infections. Some of the newer sulphanilamide compounds are being tried in urinary tract infections, but so far none have been found to show any special advantage over sulphanilamide.

COMMENT

It is instructive that not only are all renal infections from foci elsewhere but also are classifiable as those of the kidneys—"hemotogenous," and those of the lower tract—"urogenous."

If these two facts stand in general under prolonged experience, then we have a direct index as to where to search for the primary focus. Search of this kind, if successful, will be the means of removing the focus of origin very quickly as part of the cure.

To differentiate, as these authors have, not only the organisms chiefly at fault but also the antiseptic directly valuable against each, is another advance.

V.C.P.

Anemia in Renal Lithiasis; Relationship to Vitamin A Deficiency

W. J. EZICKSON (*Urologic and Cutaneous Review* 42:829, Nov. 1938) reports a study of 75 patients who had recently been operated for renal or ureteral calculi. Blood counts showed that 35 of these patients (46 per cent.) had a hyperchromic anemia with color index one plus; and 9, or 12 per cent., had a hyperchromic anemia, with color index minus one. In 31 cases the blood count was normal. Thus in 44 cases or 58 per cent. of these cases of renal lithiasis, there was some form of anemia.

Thirty-three of these 44 patients with anemia associated with renal lithiasis were studied for vitamin A deficiency by means of dark adaptation tests employing the Feldman adaptometer. These tests showed definite vitamin A deficiency in 32 of the 33 cases. These studies, therefore, indicate a close relationship between the anemia, vitamin A deficiency and renal lithiasis. Treatment of the anemia in these cases consisted of the administration of iron, large doses of vitamin A concentrate, high vitamin diet, and in some cases, liver extract; vitamins B and G were also given in the form of yeast tablets.

COMMENT

A function chronically gone wrong as the excretion of urine always is in lithiasis must depend on a deeply seated status. To find that status to be anemia in 58 per cent of the cases studied is very suggestive that the chronic infection on which stones rest may begin in anemia and other malnutritional conditions. Thus groundwork is laid and the rest of the process follows.

V.C.P.

Spontaneous Rupture of the Cutaneous Bladder

T. E. WYATT and H. L. DOUGLASS (*Journal of Urology*, 40:506, Oct. 1938) are of the opinion that spontaneous fistulae of the bladder should be included in the classification of spontaneous rupture since a fistula results "from a destruction of tissue within the vesical wall or from an extension of a pathological process arising in an organ in apposition to it." They report a case of vesicovaginal fistula resulting from tuberculous infection of the bladder; the bladder infection was secondary to renal tuberculosis involving the right kidney only. After nephrectomy and irrigation of the bladder with a weak solution of phenol, the fistula healed "almost spontaneously." The authors note that this is the only case on record at the Vanderbilt University Hospital (Nashville, Tenn.) in which a spontaneous vesicovaginal fistula was associated with tuberculosis. In a review of the literature, the authors found 31 cases of spontaneous rupture of the tuberculous bladder; all cases of intraperitoneal rupture were

fatal, in spite of surgical intervention; in 4 cases of vesicovaginal fistula, attempts at surgical repair failed. The only methods of treatment to be considered in rupture of the tuberculous bladder are nephrectomy in unilateral renal tuberculosis, nephrostomy and ureteral transplantation. In the authors' opinion the prognosis in urinary tuberculosis "depends more upon the severity of the cystitis rather than on the degree of nephritis."

COMMENT

Tuberculosis is still the same old process. Some parts have healed or are healing. Other parts are slowly progressive and still others are actively destructive. In the presence of the irritations of urine, especially decomposing urine, it is remarkable that more lesions such as fistulae in the bladder do not occur.

V.C.P.

Supervoltage Roentgen Treatment of Carcinoma of the Bladder

RICHARD DRESSER and J. C. RUDE (*Journal of the American Medical Association*, 111:1834, Nov. 12, 1938) report the use of supervoltage Roentgen rays in the treatment of carcinoma of the bladder, employing 1,000,000 volts. Approximately 19 per cent. more radiation "per unit of surface dose" can be delivered to a tumor at the center of the pelvis with this voltage than with 200 kilovolt rays. The supervoltage Roentgen rays have been employed by the authors for fifteen months; the total tumor dose of deep-seated pelvic lesions has been brought to 3,000 roentgens, with daily exposures of 400 roentgens to the surface, without harmful effect on normal structures. Symptoms of rectal and vesical irritation may develop with this amount of radiation, but such symptoms subside promptly. The authors are of the opinion that the dosage employed is not sufficient to control epidermoid cancer of the bladder permanently, but they believe that a total tumor dosage of at least 4000 roentgens may be attained with safety if given at the rate of 200 roentgens daily. The immediate results of the supervoltage Roentgen-ray treatment in 26 cases of

carcinoma of the bladder with a tumor dose of approximately 3000 roentgens, were as follows: In 7 cases, 26.9 per cent., there was complete or nearly complete regression of the tumor, so that any remnants of the growth could be removed by fulguration or treated by implantation of radium. In 9 cases, 34.6 per cent., there was partial regression of the tumor with relief of the symptoms of pain, frequency and hematuria. In 10 cases, there was little or no response to the treatment. All the cases treated were inoperable, or were cases of recurrence after operation; a number were in "the last stages of advanced malignant disease." The results were better than those obtained with lower voltage radiation, and the patients have shown only a slight general reaction, while local reactions were usually not severe.

COMMENT

Studies such as this show, as I have often said, that the x-ray is coming into its own. Comparing what was known and done ten years ago with present procedures, one realizes what has in fact been accomplished. But comparing what is being done in the present with what is hoped for in the future, one perceives how long the journey to be traveled remains in fact.

V.C.P.

Kidney Function and Uremia in Renal Amyloidosis

M. F. MARK and H. O. MOSEN-THAL (*American Journal of Medical Sciences*, 196:529, Oct. 1938) note that for many years it was believed that renal amyloidosis was not associated with renal insufficiency and uremia, but more recently several cases have been reported in which renal amyloidosis terminated in uremia. In a study of 189 cases diagnosed as amyloidosis at the Sea View Hospital, 93 were classed as renal amyloidosis. Of these 93 cases 47 did not show azotemia, and 16 developed azotemia. In the non-azotemic cases, the duration of life was shorter, the patients dying from the primary disease. The patients in the azotemic group lived longer, 43.7 per cent. living more than one year. Only 7 patients—14.8 per cent.—in the non-azotemic group lived

more than one year. In 4 of these repeated renal function tests were made, and indicated a progressive impairment of renal function. These findings indicate that the longer the patient with amyloid disease of the kidney lives, the more likely is renal insufficiency to develop; uremia usually appears within three years. Hypertension is not common in renal amyloidosis; if it does occur, a contracted amyloid kidney is found at autopsy. But this is relatively rare as in most cases of renal amyloidosis with uremia, large waxy kidneys are found at autopsy. Renal insufficiency in these cases may be caused either by shutting off the circulatory flow in the glomeruli, or by casts plugging the tubules.

COMMENT

Degeneration such as amyloidosis is essentially deeply seated and of slow progress. This slowness probably affords nature the opportunity of compensating lost function with the augmented function of parts of the kidney not yet involved. When these normal remnants begin to change into amyloid tissue the last stand is being lost. Hence decreasing function and hypertension are much to be expected and probably would occur in all cases if life could continue sufficiently long.

V.C.P.



Sedimentation Rate in Nutritional Anemia of Infants and Children

C. H. SMITH (*American Journal of Diseases of Children* 56:510, Sept. 1938) reports a study of red cell sedimentation in 16 cases of nutritional anemia in infants and children. In 36 determinations in 14 children with hematocrit values below 36 per cent., the red cell sedimentation rate was normal in 23 instances, or 65 per cent.; and in 6 of the remaining tests it was only slightly accelerated. In 11 cases of uncomplicated nutritional anemia, with normal or slightly accelerated sedimentation rates prior to treatment, the administration of iron caused further retardation of the rate. But in

the other 5 cases, which were complicated by infections of various types, treatment with iron did not reduce the sedimentation rate in spite of regeneration of hemoglobin and of red cells. Of the 16 children with nutritional anemia, 10 were treated with ferrous sulfate, 5 with iron and ammonium citrates, and one with a combination of the two. A satisfactory hematological response and a retardation of the sedimentation rate were obtained with smaller doses of the ferrous salt than of the ferric salt. The statement is frequently made that anemia is productive of an accelerated red cell sedimentation rate, but this cannot be accepted "without reservation"; in nutritional anemia there are evidently some factors present that counteract the tendency to acceleration of the sedimentation rate in diluted blood. The slowing of the sedimentation rate under treatment in uncomplicated nutritional anemia is an additional aid in estimating the effectiveness of iron therapy.

Effect of a Milk Supplement on the Physical Status of Institutional Children

LYDIA J. ROBERTS AND HER ASSOCIATES AT THE UNIVERSITY OF CHICAGO (*American Journal of Diseases of Children* 56:805, Oct. 1938) have found, in previous studies, that the addition of a pint equivalent of evaporated milk to the diet has resulted in better growth in height and weight and more rapid progress in bone development, as judged by ossification of the bones of the wrist. In this study the effect of the milk supplement on dental caries was investigated. In all these studies one group of children was given nonirradiated milk and another irradiated milk. The addition of milk to the diet—whether irradiated or not—had a slight effect in retarding the incidence and progress of dental caries, but this effect was not marked. This indicated that the favorable effects of the added milk or added vitamin D in the irradiated milk were offset by other limitations of the diet, or other unfavorable factors, as far as the development of caries was concerned. The previous studies, considered with the present find-

ings, indicate that the additional milk supplemented some, but not all, of the deficiencies in a "rather mediocre institutional diet," and to that extent is a "factor of safety." A further study with all the deficiencies in the diet supplemented is desirable, to determine if the "extremely progressive caries" in the institution could be effectively arrested by a fully adequate diet.

Placental Globulin in the Modification of Measles

J. L. WARING (*Archives of Pediatrics* 55:570, Sept. 1938) notes that in general practice commercial products must be used as a rule for the prevention or modification of measles, rather than sera and globulins prepared under the supervision of research laboratories. During an epidemic of measles in Charleston, S. C., the author tested a commercial immune (placental) globulin for 50 persons (including 5 adults) exposed to measles. An attempt was made to give the globulin on the fifth or sixth day after exposure in order to modify the attack. A standard dose of 2 c.c. of the globulin was given by intramuscular or deep subcutaneous injection. Of the 50 persons given the globulin, 30, or 60 per cent, did not develop measles; 17, or 34 per cent., showed a modified form of the disease; only 3 had typical measles. Of these 50 persons 31 had been exposed by intimate contact with a case of measles in the home; of these 16 did not develop measles, 13 showed a modified form of the disease and only 2 had typically severe measles; 13 had been exposed to infection at school or play; of these, 8 did not develop measles, 4 showed a modified form of the disease, and one a severe form of the disease; in 6 cases the history of exposure was "doubtful," and none developed the disease. Apparently the administration of the globulin was not correctly timed to secure the desired modification of the disease, as a larger percentage were entirely protected. The results indicate, however, that the globulin employed was effective in prophylaxis.

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Honey as a Carbohydrate in Infant Feeding

F. W. SCHLUTZ and E. M. KNOTT (*Journal of Pediatrics* 13:465, Oct. 1938) report a study of the effect of using honey as a carbohydrate in infant feeding. Ten healthy male infants were studied for six months; formulas were restricted to evaporated or dried milk plus a carbohydrate, with additional supplements of pure vitamin or mineral solutions. The response to honey as the added carbohydrate was contrasted with the response to karo corn syrup. It was found that honey was well tolerated by the infants; it did not cause diarrhea; it appeared to facilitate gain in weight, and the average daily weight increase was greater when honey was employed in the formula on a somewhat lower caloric intake. Studies of the blood sugar showed that honey was rapidly absorbed, but at the same time did not raise the blood sugar to "higher levels than can be easily cared for by the body." The fall in blood sugar was steady and slow till the fasting level was reached. This effect on the blood sugar is explained by the fact that honey is a combination of two monosaccharides, dextrose and levulose. It is quickly digested and absorbed because of its dextrose content but does not raise the blood sugar to such a high level as other sugars containing larger percentages of dextrose. The levulose is somewhat more slowly absorbed and aids in maintaining the blood sugar. These studies indicate that honey is a type of carbohydrate "well suited to the infant's needs" and may be recommended for wider use in infant feeding.

The Vitamin C Standard in Children

C. W. HERLITZ (*Acta Paediatrica* 23:43, Oct. 15, 1938) reports a study of the ascorbic acid content of the blood serum in relation to dietary in 44 healthy children and 57 children with severe gingivitis. Determinations of the ascorbic acid content of the serum were made at the fasting level and again two hours after the administration of ascorbic acid by mouth in amounts of 10 mg. per kg. body weight. It was found that

the ascorbic acid content of the serum increased as the raw fruit content of the diet had been increased. In children given a moderate amount of raw fruit (approximately an orange or an apple daily) the fasting ascorbic acid content of the serum was approximately 1.71 mg. per cent., and the value two hours after administration of ascorbic acid was approximately 1.87 mg. per cent. In children who, living under similar conditions otherwise, were not given raw fruit daily, the fasting ascorbic acid was 0.24 mg. per cent., and the two hours' value 0.69 mg. per cent. It was found that if the fasting value was below 0.40 mg. per cent. and the two hours' value below 1 mg. per cent., the dietary history indicated a definite sub-normal intake of vitamin C. In comparing the findings with the incidence of gingivitis, the author found no evidence that gingivitis was associated with a sub-normal vitamin C. intake. A low value for ascorbic acid in the serum can be brought to normal in three weeks by the addition of a moderate amount of raw fruit to the diet.

Experimental Therapy of Acute Leukemia With Extracts of Bone Marrow

J. V. COOKE (*Journal of Pediatrics* 13:651, Nov. 1938) reports the use of extracts of bone marrow in the treatment of acute leukemia at the St. Louis Children's Hospital. This treatment was employed on the theory that acute leukemia is a deficiency disease in which dysfunction of the bone marrow "results from absence of a secretion necessary for normal granulopoiesis" and that this "miss-

ing element" might be supplied by the injection of animal tissue extracts. Extracts of liver, spleen and thymus were tried, but had no apparent effect; then an extract of fresh red bone marrow was employed. This extract when injected into laboratory animals caused no toxic symptoms. Eleven cases are reported in which the bone marrow extract caused definite improvement in clinical symptoms and blood picture, although none of these children lived more than six months. In 2 cases there was a complete remission of the disease for two and four months, respectively; in 2 cases complete remission for shorter periods; 2 patients showed a marked increase in maturation of granular leukocytes; in 4 cases the disease remained clinically arrested and quiescent for three to six months, and in one of these a prompt decrease in the size of the lymph nodes and spleen was noted after treatment. In another case there was also a decrease in the size of the lymph nodes and spleen but no prolonged remission. In at least 6 of these 11 cases, the author notes, there was "an unmistakable and striking increase" in granular leukocytes in the circulating blood during the treatment with extracts. The author also states that he has never before seen a remission in acute leukemia, and finds but one instance reported in literature. He therefore suggests that further investigation in the use of bone marrow extract be carried on with the aim of developing a potent biologic product, "which may be of value not only in the treatment of the disease, but in establishing its character."



URINARY INFECTIONS IN INFANCY AND CHILDHOOD: DIAGNOSIS AND TREATMENT

The experience of HENRY F. HELMHOLZ, Rochester, Minn. (*Journal A. M. A.*, Nov. 5, 1938), has taught him that a patient should not be treated for a urinary infection until it is certain that an infection is present in the urinary passages. If urinary infection is present it is important to know what type or types of bacteria are causing it. The two procedures by which this information

can be ascertained are staining the sediment of the centrifuged urine with Gram's stain and a culture of the urine. By the former method it is possible to determine whether the infection is the result of gram-negative bacilli, cocci or a combination of the two. By means of cultures on eosin methylene blue agar one may differentiate the various gram-negative bacilli and *Streptococcus faecalis*, and by means of cultures on blood agar one may distinguish the other forms of cocci. The varied response

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MEDICAL

Review

EDUCATION A MAJOR NEED IN ADEQUATE MEDICAL CARE

HERBERT L. LOMBARD, Boston (*Journal A. M. A.*, Nov. 5, 1938), believes that adequate care for the sick presupposes the existence and the use of adequate facilities. Both economics and education are integral parts of the problem of adequate medical care. If the economic structure of society were such that all could afford adequate service, many would not get it through lack of proper information. The individual must be able to recognize the need of seeking service, he must avail himself of the resources available. Disease is of two types, the acute and the chronic. In the survey of chronic diseases conducted by the Massachusetts Department of Public Health in 1930, records were obtained from 15,000 persons over the age of 40. Of this number 4,337 (28.9 per cent) admitted having one or more chronic diseases. Of the sick, 63.7 per cent were under the care of physicians, 2.3 per cent were cared for by the various cults and 33.9 per cent had either self-administered treatment or no treatment. Subdivided according to economic status, those with a comfortable income employed physicians in 80.5 per cent of the cases, those with a high moderate income in 69.7 per cent, those with a low moderate income in 63.2 per cent and the poor in 58.6 per cent. The persons who had had no care during the preceding year were questioned as to their reasons. If the figures for the reasons "felt condition not serious," "felt physician could not help," "fear" and "no faith in physicians" measure the need for education, approxi-

mately 80 per cent of the persons who did not employ a physician during the past year required education. If the reasons for delay are applied to the sick who needed physicians (3,266), the rates indicate that economic factors are not as important as education. The need for a better informed public at all economic levels is indicated. Among the poor who had not employed physicians, those who gave reasons which indicated a need for education were twice as many as those who furnished economic reasons. As confirmatory evidence, the ten year experience in the Massachusetts cancer clinics is cited. The experience in Massachusetts demonstrates most conclusively that the keynote of cancer control is education.

Consultation des Médecins





A diabetic child before and after treatment with insulin. The spirit and aims of modern medicine are symbolized in such achievements as this.

Courtesy of 'Hygeia'

FOCAL INFECTION: QUARTER CENTURY SURVEY: FRANK BILLINGS LECTURE

WALTER L. BIERRING, Des Moines, Iowa (*Journal A. M. A.*, Oct. 29, 1938), states that in any attempted survey or evaluation of the present status of focal infection it must be evident that such infection has come to occupy an important place in the activities of medical and surgical practice and of the various specialties. It has been remarked that it has greatly enhanced the opportunities of certain specialties. With increasing knowledge of the various phases of the problem a more conservative attitude has developed with reference to hasty diagnostic conclusions and radical removal of the suspected foci of infection, with added emphasis on a more careful analysis of all possible etiologic factors connected with the condition concerned. Treatment should be based on the results of an accurate and complete diagnosis. It is the patient with a focal infection who requires treatment and not the focal infection alone. In spite of the critical attitude maintained in certain quarters

regarding the continued acceptance of the concept of focal infection, it should be acknowledged that the efforts that have been proposed to detect and then to obliterate all forms of focal infection in the mouth and throat as well as elsewhere in the body for preventive as well as for curative purposes, besides being in accord with sound reasoning from general principles, has received the support of strong experimental evidence. The constant correlation of experimental investigation with careful clinical observations has distinctly influenced diagnostic procedure for both the medical and the surgical specialist as well as for the general practitioner. The correct interpretation of all the factors concerned with the casual relationship of focal infection to systemic disease requires diagnostic skill and judgment of a high order. Perhaps the real contribution of the concept of focal infection is a fuller appreciation of the higher professional attributes involved in careful diagnostic conclusions and more complete treatment of patients, which are well exemplified in the life and service of Dr. Frank Billings.

Medical Book News

• All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, New York.

Edited by Alfred E. Shipley, M.D., Dr. P.H.

A Laboratory "Vade Mecum" on the Blood

LABORATORY MANUAL OF HEMATOLOGIC TECHNIC. Including Interpretations. By Regena Cook Fack, M.D. Philadelphia, W. B. Saunders Company, [c. 1938]. 389 pages, illustrated. 8vo. Cloth, \$4.00.

The author of this Laboratory Manual, designed primarily for the needs of medical technologists, is well known for her interest and experience in this field. She has produced a book of extraordinarily high merit, as it is a veritable "Vade Mecum" on the subject.

One noteworthy feature of the manual is that it contains much of the current views on hematology that have hitherto been available only in periodical literature. For example, the newer views of Howell and Donahue as to the development of blood platelets from the capillary areas of the lung, published recently in the *Journal of Experimental Medicine*, is included in the text. Similarly, abundant information dealing with the study of the bone marrow and vital staining are worthy of comment.

The book is conveniently divided into several parts dealing respectively with the technical procedures involved in procuring blood specimens; the enumeration of the cells and determination of the various indices of the blood; the cytology of the blood with special stress on histo-

genesis; and finally, the special studies used in hematology and special blood pathology dealing with the diseases in which the erythrocytes and leucocytes are primarily affected.

In that portion of the book dealing with technic, the author gives only those methods which in her experience have been found preferable for clinical work, or other methods which are used so commonly as to require mention.

Of special value to laboratory technicians are the questions at the end of each chapter providing a review and a correlation of the preceding text. Another valuable feature is the inclusion of the common terms and their definitions at the end of each chapter.

The author in her preface states that the book should be useful for the clinician in interpreting hematological reports. It is the feeling of the reviewer

that insufficient stress has been laid on this feature, but this can hardly be expected in great extent in a book of this size. For this reason, the book would seem to be more likely to occupy the place of a complementary text to the practitioner, and to be used in conjunction with the larger and more complete books on this subject.

The book can be highly recommended to laboratory workers in the field.

THEO. J. CURPHEY.



Classical Quotations

- The aim of modern medicine, coordinate with the advancement of all the sciences, is the prediction and control of phenomena, the prevention, as inclusive of the cure, of disease.

Fielding H. Garrison. *An Introduction to the History of Medicine.*

A New Approach to Fracture Care
EXPERIENCE IN THE MANAGEMENT OF FRACTURES AND DISLOCATIONS. By The Staff of the Fracture Service of the Massachusetts General Hospital under the general editorship of Philip D. Wilson, M.D. Philadelphia, J. B. Lippincott Company, [c. 1938]. 1035 pages, illustrated. 4to. Cloth.

This volume is extremely novel in the field of literature on the subject of fractures and dislocations. Its author has approached the subject from an entirely new angle, and, we feel, has enhanced the value of his work by so doing.

Each division of the skeleton has been covered in a separate chapter. First is presented a short anatomic review of the part, followed by a description of the material studied and then a complete review of the case histories of actual conditions treated, type of treatment and results. The text is clear and concise. Descriptions of the method of treatment and the reasons therefor are amply set forth, giving the reader a more specific idea of the application of proper surgical principles to the care of all types of fractures ordinarily encountered than can be conveyed by the discussion of abstract generalities in the care of this type of surgical lesion.

This work is of particular value to the advanced student and to the practitioner who is called upon to do his own fracture and dislocation work without the help of advice from the orthopedist or surgeon.

H. WRIGHT BENOIT.

Jones' Psychoanalytic Writings
PAPERS ON PSYCHO-ANALYSIS. By Ernest Jones, M.D. Fourth edition. Baltimore, William Wood and Company, [c. 1938]. 643 pages. 8vo. Cloth, \$8.00.

This is the fourth edition of a book that first appeared twenty-six years ago. At that time it was but a modest exposition of Prof. Freud's theories. Since then psychoanalysis has grown, and the present edition contains much of the knowledge and information gathered since the appearance of the first edition.

Dr. Jones has been one of the most gifted of Prof. Freud's pupils. He has contributed much to psychoanalysis. In the present edition he has published a series of papers which cover the most important phases of the subject, and has arranged them in an order that give clarity and harmony to the entire subject.

YOU may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the **MEDICAL TIMES**, 95 Nassau Street, New York, N. Y.

Every psychoanalyst will read this book, and it also will appeal to the intelligent, cultured person. It is further recommended as an introductory volume to the study of psychoanalysis. This valuable work serves a great purpose; it is therefore highly recommended.

IRVING J. SANDS.

For the Hard of Hearing
THE HANDICAP OF DEAFNESS. By Irene R. Ewing, M.Sc. and Alex. W. G. Ewing, M.A. New York, Longmans, Green and Company, [c. 1938]. 327 pages, illustrated. 8vo. Cloth, \$5.40.

In the preparation and publication of this book the authors draw from a rich personal background to which they have added an extensive bibliography which enriches a work of this type. The authors have profusely illustrated this book with charts and drawings. The subject matter includes the medical and sociological phases of the subject of deafness. This work makes an excellent text from which those interested in hearing impairment may draw for guidance and assistance.

SAMUEL ZWERLING.

Popular Child Development
BABIES ARE HUMAN BEINGS. An Interpretation of Growth. By C. Anderson Aldrich, M.D. and Mary M. Aldrich. New York, The Macmillan Company, [c. 1938]. 128 pages, illustrated. 8vo. Cloth, \$1.75.

Had this reviewer been giving a text, or a subtitle, for this little book, it might have been: Savor your rules with common sense, as babies are all different. This seems to be the essence of the story detailed with reference to eating, sleeping and other performances and

their management. It should help troubled parents. The authors write attractively.

WALTER D. LUDLUM.

More International Clinics

THE NEW INTERNATIONAL CLINICS. Original Contributions—Clinics; and Evaluated Reviews of Current Advances in the Medical Arts. Edited by George M. Piersol, M.D. Volume II, New Series One, 1938. Philadelphia, J. B. Lippincott Company, [c. 1938]. 315 pages, illustrated, 8vo. Cloth, \$3.00.

The June number of these interesting Clinics contains several articles of unusual interest. Karsner reviews Goldblatt's work in hypertension; Forkner discusses the relationship of leukemia to pregnancy and the puerperium; Rosenheim of University College, London, reviews the use of mandelic acid in urinary infections. There is a very complete study of atypical hereditary hemorrhagic syndromes by Gieger of New Haven. The last article is a complete review of the literature on regional ileitis.

ANDREW M. BABEY.

Problems in Climatic Physiology

LIFE, HEAT AND ALTITUDE. Physiological Effects of Hot Climates and Great Heights. By David B. Dill. Cambridge, Harvard University Press, [c. 1938]. 211 pages, illustrated, 8vo. Cloth, \$2.50.

Judging from the title of this book, its scope would appear to be distinctly restricted. It is, on the contrary, a rather broad survey of the author's experiences, together with those of his collaborators at the Harvard Fatigue Laboratory, with some of the most fundamental problems in physiology. It is extremely interesting reading, and contains much material capable of provoking thought in one interested in the problems of medicine.

GEORGE B. RAY.

Ballenger's Latest Otolaryngology

DISEASES OF THE NOSE, THROAT AND EAR. MEDICAL AND SURGICAL. By William L. Ballenger, M.D. and Howard C. Ballenger, M.D. Seventh edition. Philadelphia, Lea & Febiger, [c. 1938]. 1030 pages, illustrated. 8vo. Cloth, \$11.00.

This is the seventh edition of the already well known and widely accepted Ballenger text. It is thoroughly revised and rewritten and well illustrated. It is practically a new book.

MEDICAL TIMES, JANUARY, 1939

Everything pertaining to the field of oto-rhino-laryngology of a practical nature is well presented and discussed. Its compilations are authoritative and complete to the extent of being abreast of recent literature.

In addition to the usual, chapters will be found on neoplasms, sinusitis in children, deep cervical infections, petrositis, and peroral endoscopy including gastroscopy. For the undergraduate, the book is too comprehensive. For the post-graduate student and practitioner the volume is a full reference.

CHAS. R. WEETH.

Fiction for the Doctor

THE DOCTOR'S PILLS ARE STARDUST. By Charles G. Givens. Indianapolis, The Bobbs-Merrill Company, [c. 1938]. 314 pages. 8vo. Cloth, \$2.50.

This is a novel of the hill country of Tennessee at the turn of the century, featuring the life of Doctor Shep Hunter—and please do not call him Doc. Shep. He admits that his practice is often by puking and purging, but his outstanding humanitarianism is thus described by his nephew Bob Hunter, who tells the story, "Doctor Shep shakes up his patients' livers and bowels with hope and love and pity and friendship. Every pill he's got has been rolled in Stardust." In the closing years of his life in this struggling mining town, Doctor Shep is vitally interested in the training of a successor and in the struggle against the epidemics of typhoid and smallpox. The sharp social divisions of the so-called aristocrats and the poor whites become the background of the story, which is also concerned with the romances of Bob, who, of course, finally renounces his determination to become a city doctor and prepares himself to practice medicine in the community which has meant so much to Doctor Shep.

J. RAPHAEL.

Latest Issue of a One Volume Yearbook

THE INTERNATIONAL MEDICAL ANNUAL. A YEAR BOOK OF TREATMENT AND PRACTITIONER'S INDEX. Edited by H. Letheby Tidy, M.D. and A. Rendle Short, M.D. Baltimore, William Wood and Company, [c. 1938]. 615 pages, illustrated. 8vo. Cloth, \$6.00.

This annual continues to serve its function as a useful summary of progress in medicine during the preceding

year. No effort is made to review the literature in any one field completely, but every important advance is adequately, and in some cases, admirably reviewed. Each of the contributors is an authority in some branch of British medicine and the editing is skillful. Most of the references are to American and British sources, but the literature in French, German and other languages is not neglected.

MILTON PLOTZ.

Biography of a Medical Philosopher

LIFE AND LETTERS OF FIELDING H. GARRISON. By Solomon R. Kagan, M.D. Boston, The Medico-Historical Press, [c. 1938]. 287 pages. 8vo. Cloth, \$3.00.

Dr. Kagan has performed a signal service in giving us a survey of Garrison's life (Part I) and in publishing his letters and compiling a bibliography of his writings (Part II). Those who associate Garrison chiefly with the *Introduction to the History of Medicine* should take a look at the voluminous bibliography covering pages 232-244 of this book and they will have a better idea of this great scholar's range of interest and performance.

Garrison was the perfect scholar. A modest man, "he lived and laboured in a calm back-water while honours drifted by in other directions." Linguist, mathematician, musician, teacher, sanitarian, historian and soldier, his vast knowledge was "well classified," "readily available," and never open to the imputation of pedanticism.

We think Colonel Ashburn, formerly librarian of the Army Medical Library, showed singular insight in his appraisal of Garrison when he wrote: "He had no clinical experience whatever. Possibly, because of this fact, knowing medicine only from books, many of them ancient and medieval, he had exalted ideas of the philosophy and mystery of medicine, and of the nobility of practice, regarding it as sacred and mysterious, even mystical." Without this unique ideology, developed through the peculiar circumstances of his life, the creations of his mind would have lacked the quality by which we rate them great.

This charming mystic, writing in his "graceful and allusive" style, has always seemed to us one of the most civil-

ized of Americans; so civilized that he, a soldier, could see clearly that the World War, with its "senseless slaughter," was as "absurd" as the Boer War.

There are two portraits of Garrison and a reproduction of Sargent's painting of the "Big Four": Welch, Halsted, Osler and Kelly—all close associates, of course, of Garrison.

ARTHUR C. JACOBSON.

A Handbook on Preventive Obstetrics

MATERNAL CARE COMPLICATIONS. The Principles of Management of Some Serious Complications Arising during the Antepartum, Intrapartum, and Postpartum Periods. Approved by The American Committee on Maternal Welfare, Inc. Prepared by R. D. Mussey, M.D., P. F. Williams, M.D., and F. H. Falls, M.D. F. L. Adair, M.D., Editor. Chicago, University of Chicago Press, [c. 1938]. 95 pages. 12mo. Paper, \$.50.

With a subtitle "The Principles of Management of Some Serious Complications Arising during the Antepartum, Intrapartum, and Postpartum Periods," this booklet of ninety-five pages covers briefly the essentials of the toxemias of pregnancy, obstetric hemorrhages and puerperal infection.

An official publication of the American Committee on Maternal Welfare, this little paper-covered book is extraordinarily practical, clear and authoritative, and costs almost nothing. It should be in the possession of every general practitioner in the land. Highly recommended.

CHARLES A. GORDON.

Pediatric Therapeutics

THE INFANT. A Handbook of Modern Treatment. By Eric Pritchard, M.D. Baltimore, William Wood and Company, [c. 1938]. 744 pages, illustrated. 8vo. Cloth, \$6.00.

This book represents the author's experience in treating the infant and child up to the age of five years. It is not a compilation of opinions of various pediatricians, hence it is not a reference book. Treatment of any subject is very direct. One is told exactly what to do step by step, and in most instances it represents a safe and sane approach in handling the condition.

The author has had a wide experience in the care of the young child in several London hospitals. The book would be a worth-while acquisition to the library of the general practitioner.

THURMAN B. GIVAN.

MEDICAL TIMES, JANUARY, 1939

A Physician Explains Accidents for Lawyers

MEDICO-LEGAL TEXT ON TRAUMATIC INJURIES. By Louis J. Gelber, M.D. Newark, Soney & Sage Co., [c. 1938]. 482 pages, illustrated. 8vo. Cloth, \$6.00.

With the vast number of accident cases which today come up for adjudication in either the law courts or in the compensation tribunal, a book such as this is of value both to the medical practitioner as well as to the practicing attorney. It contains material pertinent to both professions.

To the medical profession it gives information of many interesting and not commonly described medico-legal problems and many particularly of interest in the x-ray field, in which the author has apparently had much experience.

To the attorney it gives considerable medical information in a concise form. While, perhaps, some improvements could be made in the arrangement of the matter in the text, what it contains will be appreciated by those medical men and attorneys who do much accident work both in the liability and compensation fields.

The chapter on medicolegal problems in malpractice is of quite some interest in the varied facts presented to the medical profession and can be read with profit. The chapter on Workmen's Compensation will give the physician a better understanding as to the character and extent of medical conditions which have been embraced within the scope of the compensation law.

JOSEPH A. MANZELLA.

A Visual Primer on Vitamins

ABC OF THE VITAMINS. A SURVEY IN CHARTS. By Jennie Gregory, M.S. Baltimore, The Williams & Wilkins Company, [c. 1938]. 93 pages, illustrated. 4to. Cloth, \$3.00.

This is an excellent project presenting the story of the vitamins by the visual instruction method. The data of the present knowledge of the chemical, clinical and therapeutic considerations of the vitamins are arranged in charts, graphs, and pictures. As the author states in the preface keeping abreast of the tide of growing information on the vitamins is no small task. "Consequently, any survey carefully done should find its place on the shelves of the physiological chemist, the nutrition worker,

the practicing physician and the medical student."

The charts are clear, many of them very simple in construction to allow comprehension at a glance. The more detailed plates require considerable analysis.

The book measures 9 by 12 inches, the only detractor to its value as a desk reference. It is too large to fit in the usual size book shelf.

It can be recommended as a careful survey of the vitamins.

PAUL CHADBOURNE ESCHWEILER.

A German Monograph on the Cycloscope

DER ZYKLUS DER FRAU. Reform des Ehelebens. By Dr. Jules Samuels, The Hague, G. Naef, [c. 1938]. 174 pages, illustrated. 8vo. Paper.

According to the preface, this book was written for the laity,—“both men and women”, to teach them how to recognize the exact time of ovulation or an early pregnancy by means of an instrument that the author names “Zykloskop”.

Says the author: “For the first time is it now possible for anyone to master the use of this instrument by which one is enabled to follow the slightest changes in the hormonal content of the blood, and thus be able quickly and positively to establish every phase of the cycle in the pituitary, uterus and ovaries.”

The instrument is based on the fact that every phase of the cycle is accompanied by hormonal changes, which cause changes in the time interval of the reduction of the oxy-hemoglobin and methhemoglobin, which may be noted by a spectroscope. The instrument has, therefore, a built-in spectroscope which is focused over the fold of translucent soft tissue between the thumb and index finger.

An electric bulb and reflector furnish the necessary illumination, and a stopwatch is attached to note the time interval of the reduction.

The book contains chapters on the anatomy and physiology of the male and female generative organs, a detailed description of the endocrine system and the gonads, and an exposé of the theories of Ogino and Knaus. One chapter is devoted to the explanation of the construction and the use of the “Zykloskop” (cycloscope), and another to the

explanation of cyclograms, or curves which are to be made while studying the various spectroscopic changes in the blood.

It is extremely doubtful if a layman, —for whom this book is purported to have been written,—could peruse it with any degree of understanding, unless he be a scientist in this particular field of endeavor. The medical profession, however, will find it extremely interesting, particularly as to the theories of ovulation and the spectroscopic changes in the blood during the various phases of the cycle.

All chapters are very well illustrated in black and color.

J. HALPERIN.

From the Yale Clinic of Child Development

THE PSYCHOLOGY OF EARLY GROWTH INCLUDING NORMS OF INFANT BEHAVIOR AND A METHOD OF GENETIC ANALYSIS. By Arnold Gesell, M.D. and Helen Thompson, Ph.D. New York, The Macmillan Company, [c. 1938]. 290 pages. 4to. Cloth, \$4.00.

This volume is one of several devoted to the study of infantile behavior carried out at the Yale Clinic of Child Development under the direction of Dr. Gesell. "The present volume deals particularly with the biometric aspects of the normative investigation".

The work is divided into three portions. Part one is concerned with methods and procedures, part two with norms of infant growth, and part three with the analytic appraisal of growth status. In addition are several appendices. There are detailed descriptions with respect to the methods of carrying out the tests for each age level and tables indicating behavior norms for each test and measurement. There are summaries which may be used to evaluate whether a given type of behavior is within the norm for that age or otherwise.

The authors feel that they can bring the objective study of growth and behavior in infants closer to the other biologic sciences. The conclusions are carefully drawn, and are based only upon the data presented.

STANLEY S. LAMM.

Mallory's Pathological Histology

PATHOLOGICAL TECHNIQUE. A Practical Manual for Workers in Pathological Histology including Directions for the Performance of Autopsies and for Microphotography. By Frank B. Mallory, M.D. Philadelphia, W. B. Saunders Company, [c. 1938]. 434 pages, illustrated, 8vo. Cloth, \$4.50.

Those who have waited this long for another edition of their Mallory & Wright will be completely satisfied with Dr. Mallory's new book. Every user will value it as a thoroughly modern and authoritative survey of acceptable techniques. Everything is furnished for comprehension of all substructures supporting each step in histopathological work. The practical is repeatedly stressed but never to neglect the ideal result. Three-quarters of the content is devoted to histology; the remainder includes autopsy methods, gross preservation, and photography. The book is as worthy as its sire, deserving well the statement that it is a necessity to the complete pathologist and technician in practice and in theory.

IRVING M. DERBY.

Sterid Chemistry

THE CHEMISTRY OF THE STERIDS. By Harry Sobotka. Baltimore, The Williams & Wilkins Company, [c. 1938]. 634 pages, illustrated. 8vo. Cloth, \$8.50.

The past ten years has witnessed a most amazing development in the knowledge of the sterols and related compounds. Although originally regarded as a major component of bile, its recognition as possessing a cyclopenteno-phenanthrene formula led to the inclusion, as related compounds, the anti-rachitic vitamin, the hormones which regulate reproduction, the cardiac glycosides, carcinogens and other widely diversified biochemical substances.

Sterols can now be defined as monovalent alcohols with a hydrogenated cyclopenteno-phenanthrene nucleus. The sterids includes sterols and steroids i.e. sterol-like substances. The author devotes the early chapters to a history, a discussion of the methods and the results of structural investigations.

The chemistry of sterols, sex hormones and other sterids are discussed with a special regard to their biochemical significance and interrelation. The physiological and pharmacological properties of these substances are considered

outside the scope of this book and are, therefore, not discussed.

The author has included a classified catalog of all sterids and their derivatives. The enormity of the substances included in this remarkable group can be seen from the fact that 300 pages were devoted to the catalog.

This book is undoubtedly a classic in its field.

WILLIAM S. COLLENS.

A Practical Pathology

ESSENTIALS OF PATHOLOGY. By Lawrence W. Smith, M.D. and Edwin S. Gault, M.D. New York, D. Appleton-Century Company, [c. 1938]. 886 pages, illustrated. 4to. Cloth, \$9.00.

This work is a new and interesting experiment in the teaching of pathology to undergraduate students. The authors believe that, due to the great expansion in medical knowledge, instruction to medical students in the four year period in college must be restricted to absolute essentials. They believe emphasis should be placed upon a thorough grounding in the fundamentals of pathology. They also believe that the case-history method of teaching can be used to advantage in teaching pathology.

Hence this work is a departure from the traditional method of teaching this subject. It is really an atlas of histopathology with descriptive pathology and case histories. It is divided into general pathology, tumors and systematic pathology. The method of presentation consists of a brief discussion of a subject, as, for example, pathological pigmentation followed by illustrative case histories, necropsy findings and a description of the microscopic appearance of the tissues. The text is clear and concise. Each subject is allotted one or more entire pages of illustrations: gross specimens, microphotographs, a few x-ray films and a number of color plates. The black and white pictures are good, though in some, the magnification is too low for the beginner. The color plates, especially those of the blood, are of high quality. There are many blank pages for notes scattered through the book.

Physically the book is rather large with pages 11 x 8 inches but it is not cumbersome. It is a handsome volume, a fine example of the bookmaker's art and should appeal to many physicians interested in pathology as well as to medical students.

ESMONDE B. SMITH.

BOOKS RECEIVED *for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.*

PHYSICAL DIAGNOSIS. By Richard C. Cabot, M.D. and F. Dennette Adams, M.D. Twelfth edition. Baltimore, William Wood & Company, [c. 1938]. 846 pages, illustrated. 8vo. Cloth, \$5.00.

MODERN SOCIETY AND MENTAL DISEASE. By Carney Landis, Ph.D. and James D. Page, Ph.D. New York, Farrar & Rinehart, Inc., [c. 1938]. 190 pages. 8vo. Cloth, \$2.50.

INDUSTRIAL HYGIENE. A Handbook of Hygiene and Toxicology for Engineers and Plant Managers. By Laurence B. Chenoweth, M.D. and Willard Macle, M.D. New York, F. S. Crofts & Company, [c. 1938]. 235 pages, illustrated. 8vo. Cloth, \$2.00.

SHORT-WAVE THERAPY. The Medical Uses of Electrical High Frequencies. By Dr. Erwin Schliephake. Authorized English Translation by R. King Brown, M.D. Second English edition. London, The Actinic Press, Ltd., [c. 1938]. 296 pages, illustrated. 4to. Cloth, 21/.

CONTROL OF CONCEPTION. By Robert L. Dickinson, M.D. Second edition. Baltimore, The Williams & Wilkins Company, [c. 1938]. 390 pages, illustrated. 8vo. Cloth, \$3.50.

DRUG ADDICTS ARE HUMAN BEINGS. The Story of Our Billion-Dollar Drug Racket. How We Created It And How We Can Wipe It Out.

By Henry S. Williams, M.D. Washington, Shaw Publishing Company, [c. 1938]. 273 pages. 8vo. Cloth, \$2.50.

THE FAMILY OF THE BARRETT. A Colonial Romance. By Jeannette Marks. New York, The Macmillan Company, [c. 1938]. 709 pages, illustrated. 8vo. Cloth, \$5.00.

ATTAINING MANHOOD. A Doctor Talks to Boys About Sex. By George W. Corner, M.D. New York, Harper & Brothers, [c. 1938]. 67 pages, illustrated. 12mo. Cloth, \$1.25.

THE HOME BOOK OF MEDICINE. By David Polowe, M.D. New York, Greenberg Publisher, [c. 1938]. 581 pages, illustrated. 8vo. Cloth, \$2.75.

HEALTH INSURANCE WITH MEDICAL CARE. The British Experience. By Douglass W. Orr, M.D. and Jean Walker Orr. New York, The Macmillan Company, [c. 1938]. 271 pages. 8vo. Cloth, \$2.50.

THE PRINCIPLES AND PRACTICE OF PERIMETRY. By Luther C. Peter, M.D. Fourth edition. Philadelphia, Lea & Febiger, [c. 1938]. 331 pages, illustrated. 8vo. Cloth, \$4.50.

CHILDREN WITH DELAYED OR DEFECTIVE SPEECH. Motor-Kinesthetic Factors in Their Training. By Sara M. Stinchfield and Edna H. Young. Stanford University, Stan-

- ford University Press, [c. 1938]. 174 pages, illustrated. 8vo. Cloth, \$3.00.
- DOCTOR BRADLEY REMEMBERS.** By Francis B. Young, New York, Reynal & Hitchcock, [c. 1938]. 522 pages. 8vo. Cloth, \$2.75.
- HOW TO CONQUER CONSTIPATION.** By J. F. Montague, M.D. Philadelphia, J. B. Lippincott Company, [c. 1938]. 244 pages. 12mo. Cloth, \$1.50.
- SANITIZATION OF THE DRINKING GLASS.** Part one "Methods and Procedures" by Jack G. Baker; Part two "Practical Control" by Raymond V. Stone, D.V.M. Los Angeles, National Association of Sanitarians, Inc., [c. 1938]. 60 pages, illustrated. 12mo. Paper.
- SPINAL ANESTHESIA.** By Louis H. Maxson, M.D. Philadelphia, J. B. Lippincott Company, [c. 1938]. 409 pages, illustrated. 8vo. Cloth, \$6.50.
- JACOB HENLE: ON MIASMATA AND CONTAGIA.** Translated by George Rosen, M.D. Baltimore, The Johns Hopkins Press, [c. 1938]. 77 pages. 4to. Paper, \$1.00.
- THE SURGERY OF ORAL AND FACIAL DISEASES AND MALFORMATIONS.** Their Diagnosis and Treatment Including Plastic Surgical Reconstruction. By George Van Ingen Brown, M.D. Fourth edition. Philadelphia, Lea & Febiger, [c. 1938]. 778 pages, illustrated. 8vo. Cloth, \$10.00.
- CANCER. ITS DIAGNOSIS AND TREATMENT.** By Max Cutler, M.D. and Franz Buschke, M.D. Philadelphia, W. B. Saunders Company, [c. 1938]. 757 pages, illustrated. 4to. Cloth, \$19.00.
- DISEASES OF THE NOSE, THROAT AND EAR.** By W. Wallace Morrison, M.D. Philadelphia, W. B. Saunders Company, [c. 1938]. 675 pages, illustrated. 8vo. Cloth, \$5.50.
- MARIHUANA. AMERICA'S NEW DRUG PROBLEM.** A Sociologic Question with Its Basic Explanation Dependent on Biologic and Medical Principles By Robert P. Walton, Philadelphia, J. B. Lippincott Company, [c. 1938]. 223 pages. 8vo. Cloth, \$3.00.
- SYNOPSIS OF CLINICAL LABORATORY METHODS.** By W. E. Bray, M.D. Second edition. St. Louis, The C. V. Mosby Company, [c. 1938]. 408 pages, illustrated. 16mo. Cloth, \$4.50.
- NUTRITION IN HEALTH AND DISEASE.** By Lenna F. Cooper, M.A., Edith M. Barber, B. S. and Helen S. Mitchell, B. A. Seventh edition. Philadelphia, J. B. Lippincott Company, [c. 1938]. 712 pages, illustrated. 8vo. Cloth, \$3.00.
- "TELL ME THE TRUTH, DOCTOR".** By Irwin I. Lubowe, M.D. Philadelphia, Dorrance & Company, [c. 1938]. 92 pages. 12mo. Cloth, \$1.50.

You may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the MEDICAL TIMES, 95 Nassau Street, New York, N. Y.



URINARY INFECTIONS IN INFANCY

—Concluded from page 40

of bacteria to different forms of treatment requires differentiation of infecting organisms. With the use of the ketogenic diet, mandelic acid and sulfanilamide, it has been possible to clear up urinary infections even in the presence of urinary stasis. If the type of infection, the renal function and the presence or absence of urinary stasis are known, the special considerations which determine the choice of urinary antiseptic are important. It would seem that in a consideration of urinary antiseptics one has a wide choice, but in the last analysis two drugs stand out above the rest; mandelic acid and sulfanilamide. Sulfanilamide is the most easily administered and the most useful drug except in cases in which the infection is with *Streptococcus faecalis*. The field of mandelic

acid has been narrowed considerably by sulfanilamide, but the former drug still is useful not only in streptococcal infections but also because of its effect on all bacteria, cocci and bacilli alike; when a proper concentration of the acid in the urine and a proper pH of the urine are obtained it is a most dependable drug. When the infection has been cleared up it is essential to eliminate urinary stasis if it is present. This is a matter of the utmost importance to the future health of the patient and should not be put off as it is so likely to be when the infection has been cleared up. By experiments on animals it was shown that so long as no stasis is present there exists an efficient barrier to the progress of an infection of the pelvis to the parenchyma of the kidney. In cases in which infection recurs periodically, it is also important to search for local foci of infection in the urethra, bladder and upper part of the urinary tract. This work should be done by a competent urologist.

Editorials

The Economics of Pneumonia

THE cost of diagnosis and treatment of 625 cases of pneumonia in New York City has been analyzed by Hirsch (Public Health Reports 53:2153 December 9, 1938). He found the median total cost of pneumonia treatment for the whole group of patients to be \$134.16. Hospitalization totaled 42 per cent of the cost; physicians' services 28 per cent; serum therapy 16 per cent; and other services 14 per cent. The median cost for serum was: ward \$59.00, semi-private \$85.00, private \$50.40, and home \$37.50.

In private practice physicians are constantly encountered with patients with pneumonia who cannot afford serum. Many states provide this serum for those who cannot pay, but there is a group of persons with an income which does not permit of charity, yet the cost of the serum is a hardship to them.

Research work now being conducted in various centers indicates that chemotherapy of pneumonia is "right around the corner." It would seem in the near future that drugs which are now being used for experimental purposes will permit as good results as with serum, and with much less expense to the patient.

—M. W. T.

Stars Over Europe

A SPECIAL dispatch to the *New York Times* under date of November first reported how one of Europe's dictators



seeks favorable conjunctions in the heavens, as reported to him by his favorite astrologer, before venturing to act in any important situation.

This information appeals to us as a more plausible explanation of

certain events in Europe than the theory which drags in a paranoid state. This seeking of the friendly counsel of the stars tends strongly to sustain many evidences of low-grade total personality, such as we were certain before that this particular dictator possessed and manifested.

Political Medicine, or, the Celebrated Case of Bardell Versus Pickwick

THOSE who have read the grand jury's indictment of the American Medical Association and other defendants, signed by Thurman Arnold, Assistant Attorney General, will find much comic relief in a rereading of that chapter in *Pickwick Papers*, by Charles Dickens, in which "a full and faithful report of the memorable trial of Bardell against Pickwick" is to be found.

Whether Serjeant Buzfuz, the prosecuting barrister in the celebrated story, is the prototype of the Assistant Attorney General, is not for us to imply or affirm, any more than we would wish to insist that Mr. Pickwick symbolizes Dr. Fishbein. We leave all that to the reader.

What, then, is our reason for advertising to this passage in *Pickwick*? We have answered this question in our first paragraph—comic relief. That is all.

Buzfuz's opening address in Mrs. Bardell's action against Mr. Pickwick for breach of promise is most moving:

Serjeant Busfus then rose with all the majesty and dignity which the grave nature of the proceedings demanded, and having whispered to Dodson, and conferred briefly with Fogg, pulled his gown over his shoulders, settled his wig, and addressed the jury.

Serjeant Busfus began by saying, that never, in the whole course of his professional experience—never, from the very first moment of his applying himself to the study and practice of the law—had he approached a case with feelings of such deep emotion, or with such a heavy sense of the responsibility imposed upon him—a responsibility, he would say, which he could never have supported, were he not buoyed up and sustained by a conviction so strong, that it amounted to positive certainty that the cause of truth and justice, or, in other words, the cause of his much-injured and most oppressed client, must prevail with the high-minded and intelligent dozen of men whom he now saw in that box before him. . . . Here Mr. Serjeant Busfus . . . smote his table with a mighty sound, and glanced at Dodson and Fogg, who nodded admiration of the serjeant, and indignant defiance of the defendant. . . . Serjeant Busfus proceeded.

"Of this man Pickwick I will say little; the subject presents but few attractions; and I, gentlemen, am not the man, nor are you, gentlemen, the men, to delight in the contemplation of revolting heartlessness, and of systematic villainy."

Here Mr. Pickwick, who had been writhing in silence for some time, gave a violent start, as if some vague idea of assaulting Serjeant Busfus, in the august presence of justice and law, suggested itself to his mind. An admonitory gesture from Perker restrained him, and he listened to the learned gentleman's continuation with a look of indignation, which contrasted forcibly with the admiring faces of Mrs. Cluppings and Mrs. Sanders.

"I say systematic villainy, gentlemen," said Serjeant Busfus, looking through Mr. Pickwick, and talking at him; "and when I say systematic villainy, let me tell the defendant Pickwick, if he be in court, as I am informed he is, that it would have been more decent in him, more becoming, in better judgment, and in better taste, if he had stopped away. Let me tell him, gentlemen, that any gestures of dissent or disapprobation in which he may indulge in this court will not go down with you; that you will know how to value and how to appreciate them; and let me tell him further, as my lord will tell you, gentlemen, that a counsel, in the discharge of his duty to his client, is neither to be intimidated, nor bullied, nor put down; and that any attempt to do either the one or the other, or the first, or the last, will recoil on the head of the attempter, be he plaintiff or be he defendant, be his name Pickwick, or Nonkes, or Stoakes, or Stiles, or Brown, or Thompson."

This little divergence from the subject in hand, had of course, the intended effect of turning all eyes to Mr. Pickwick.

[After covering all the details of the case, the barrister brings his remarks to an eloquent close].

"But enough of this, gentlemen," said Mr. Serjeant Busfus, "it is difficult to smile with an aching heart; it is ill jesting when our deepest sympathies are awakened. My client's hopes and prospects are ruined, and it is no figure of speech to say that her occupation is gone indeed. . . . Pickwick still rears his head with unblushing effrontery, and gapes without a sigh upon the ruin he has made. Damages, gentlemen—heavy damages—is the only punishment with which you can visit him; the only recompense you can award to my client. And for those damages the now appeals to an enlightened, a high-minded, a right-feeling, a conscientious, a dispassionate, a sympathizing, a contemplative jury of her civilised countrymen." With this beautiful peroration, Mr. Serjeant Busfus sat down, and Mr. Justice Stareleigh woke up.

[The case goes on divertingly to considerable length, with Mr. Serjeant Snubbins, *Pickwick*'s barrister, doing the best he could for his client].

Mr. Justice Stareleigh summed up, in the old-established and most approved form. He read as much of his notes to the jury as he could decipher on so short a notice, and made running comments on the evidence as he went along. If Mrs. Bardell were right, it was perfectly clear that Mr. Pickwick was wrong, and if they thought the evidence of Mrs. Cluppings worthy of credence they would believe it, and if they didn't, why they wouldn't. If they were satisfied that a breach of promise of marriage had been committed, they would find for the plaintiff with such damages as they thought proper; and if, on the other hand, it appeared to them that no promise of marriage had ever been given, they would find for the defendant with no damages at all. The jury then retired to their private room to talk the matter over, and the judge retired to his private room, to refresh himself with a mutton chop and a glass of sherry.

[The outcome of the case was that damages of seven hundred and fifty pounds were laid against Mr. Pickwick, who had chosen to fight the case on the merits, and not in the manner expressed by the old father of Sam Weller, Mr. Pickwick's faithful attendant, after the announcement of the verdict: "I know'd what 'ud come o' this here mode o' doin' bisness. Oh, Sammy, Sammy, vy worn't there a alleybi!" But we insist that no moral for us of today need necessarily be read into this story].

The Brooklyn Hospital Journal

THERE is a great deal of activity going on in hospitals which deserves recording and preservation, if only for the information and guidance of future members of the staffs. Some of it is "filed away and forgotten", as the editor of the newborn *Brooklyn Hospital Journal* says in his foreword, more of it is
—Concluded on page 100

SOME SUBSIDIARY FACTORS ASSOCIATED WITH

Coronary Occlusion

GEORGE BLUMER, M.D., F.A.C.P.

New Haven, Conn.

IT is now generally conceded that the two chief factors concerned in most patients with coronary occlusion are (1) arteriosclerosis of the coronary arteries and (2) the development of a thrombus in a branch of one of these vessels. This statement is usually valid, although, of course, there are occasional cases of obstruction due to embolism.

It is the purpose of this paper to discuss some of the factors, both of a predisposing and an exciting nature, which experience leads me to believe play some part in coronary occlusion. What I have to say is based upon a study of 255 patients with fresh or old coronary closure observed in private practice, a number which is much too small to serve as a sound basis for statistical analysis but is large enough to furnish tentative conclusions.

Heredity

I HAVE been impressed a good many times by the importance of *inheritance* in some cases of coronary disease. When I say inheritance I mean not merely the inheritance of arteriosclerosis but of a definite family tendency to sclerosis of the coronary arteries with angina pectoris and coronary occlusion. In view of the fact that coronary occlusion was seldom recognized before the last fifteen or twenty years I have not attempted to differentiate between this condition and the ordinary angina pectoris of effort in analyzing family histories. I find that in my series of patients there were 47, or something over eighteen per cent, who gave a definite history of coronary disease in relatives,

most commonly in the father, about half as frequently in the mother, and occasionally in both parents. There was a history of coronary disease in siblings almost as frequently as in the mother, and sometimes in both a parent and a sibling. Among this group there were two or three families in which the disease appeared to be so common that one might speak of it as an outstanding family peculiarity. In the case of Mr. B., for example, his father, two uncles, one aunt, and one brother had all died with symptoms which were clearly either angina pectoris or coronary occlusion. Many writers on angina pectoris have called attention to the family occurrence of the disease at times. Osler, in his book on Angina Pectoris, cites the well-known Hughes family as an example.

Tobacco

THERE has been a tradition among the profession for many years to the effect that the use of *tobacco* is associated with coronary disease. One has only to run through the *Index Medicus* to find many allusions to tobacco angina. I have taken very careful histories covering the use of both tobacco and alcohol for a great many years and I find that in my cases of coronary occlusion almost exactly one-third of the patients did not use tobacco at all, about thirty-seven per cent used it in moderation, and about twenty-nine per cent were heavy and habitual smokers. I have classed anyone who smoked not more than 20 cigarettes or 3 cigars or pipes a day as a moderate smoker and anyone who smoked more than this as an excessive smoker. However, when these figures are compared with a similar group of unselected patients in the same age group and with

the same proportion of males and females, the figures obtained are almost identical, namely, non-smokers 34 per cent, moderate smokers 33.3 per cent and excessive smokers 32.6 per cent. So far as this small series is concerned I am forced to the conclusion that the use of tobacco has nothing whatever to do with coronary occlusion. Perhaps this statement should be modified on account of a factor to which attention has recently been called, namely, the possibility that individuals who develop coronary occlusion are sensitized to tobacco. However, I fear that as yet this is but a theory and that too much weight should not be placed upon it.

Alcohol

MY experience with *alcohol* is very similar to my experience with tobacco except that a very much larger percentage were total abstainers from alcohol than was the case with tobacco. As a matter of fact 46 per cent of patients who had coronary occlusion were total abstainers and 42 per cent were individuals who only occasionally took a drink, so that 88 per cent were to all intents and purposes non-users of alcohol. This leaves twelve per cent who were habitual users of alcohol, but it is only fair to say that of these only about a third were excessive drinkers. When we compare the alcohol consumption of patients who did not have coronary occlusion but who were in the same age period and showed the same ratio of sexes, the differences are so slight as to be insignificant; 48 per cent of this latter group were total abstainers, 40 per cent were occasional drinkers, and 10½ per cent were habitual drinkers. So here again I think we must return the Scotch verdict of not proven. In other words there is no evidence at all in this small group of cases that alcohol has anything whatever to do with coronary occlusion. It is well known that moderate doses of alcohol are often of benefit to patients who have had coronary occlusion. I have seen a few patients in whom coronary occlusion followed a protracted bout of alcoholism, which is of course a different matter from the steady but habitual use of smaller amounts.

Thrombosis Elsewhere

I HAVE been interested to look over my cases and try to discover whether many of them had had thrombosis elsewhere in their bodies, either with or preceding coronary thrombosis. It is a well known fact that thrombosis as a pathological process does not affect all persons indiscriminately. While some of the factors leading to thrombosis are obscure, it is clear that there is in some families a definite tendency to the condition, and it is certain that mechanical factors, such as stasis, favor its production. Only about 5 per cent of my patients gave a history of thrombosis elsewhere preceding or accompanying a coronary occlusion. In only two of these did thrombosis elsewhere accompany the coronary occlusion and in both of these it was in the femoral vein. Several of the cases who gave a history of a preceding thrombosis were married women who had had milk leg in association with childbirth; others, usually males, had had thrombi, nearly always in the veins of the lower extremities.

So far as the production of the actual attack is concerned I want to call attention briefly to two or three factors.

Infection

I BELIEVE that infection, even minor infection, as an exciting cause of thrombus formation in the coronaries, is much more important than has generally been stated in articles on the subject. I was able to get a history of some sort of infection in a little over 10 per cent of my patients and in many instances the relationship between infection and the development of coronary occlusion was so immediate that it was entirely reasonable to suppose that the infection was responsible, particularly as we know that thrombosis elsewhere is not infrequently of infectious origin. In the great majority of these patients the coronary occlusion occurred immediately after colds or attacks of so-called gripe or flu. In a few cases the occlusion occurred from 1 to 5 weeks after a cold or an attack of gripe, and in two cases the occlusion occurred as a postoperative complication where the operation wound had become infected. There is certainly a much larger proportion of infections preceding coronary occlusion than

Gwyn's article, for example, would lead us to expect.

Exertion and Emotion

I WANT to call attention to the relationship between exertion or emotion and the onset of an attack of coronary occlusion. In his article in Osler's Festschrift, J. B. Herrick, one of the earliest students of coronary occlusion in this country, says "Frequently there is no assignable cause for the attack such as is commonly noted in the typical angina—walking, a heavy meal, undue excitement, etc.—though in some cases these factors seem to provoke the attack or, at least, greatly aggravate it when it has started." In the group of personally observed cases which I have studied I have found that a little over 8 per cent gave a definite history of either exertion or emotion immediately preceding the onset of an attack of coronary occlusion. One individual, for example, who visited a New York physician, evidently not an eminent one, was advised to take violent exercise on account of his heart condition. He did this and immediately developed a severe attack of coronary occlusion from which he died the following morning. In other individuals attacks have developed after such exercise as digging a hole, running upstairs, walking up hill, putting coal on the furnace, waxing the kitchen floor, hauling in a heavy boat, sculling a boat against the tide, washing curtains, or playing eighteen holes of golf. In some instances it was clear that the patient already had symptoms when the exercise was indulged in, but in other cases there was no such history and it appeared certain that the excessive exercise, which was perhaps followed by a drop in blood

pressure and enfeeblement of the circulation, was responsible for the attack. In the same way I have seen several attacks of definite coronary occlusion follow the excitement attendant upon athletic contests, particularly football games, and I have developed a firm conviction that elderly gentlemen of an excitable nature, especially if they have had premonitory attacks of angina of effort, should keep away from athletic contests. There is seldom a year that we do not have in the hospitals of New Haven after the major football games cases of coronary occlusion, and, as is well known, cases of sudden death which also are probably due to coronary disease.

Conclusions

WE may conclude, then, I think, that among patients with coronary occlusion comparatively few have a previous history of thrombosis elsewhere, that judging from a small personal experience there is no conclusive evidence at present that the use of either alcohol or tobacco has any effect in the production of coronary occlusion. On the other hand there is evidence that heredity is an important factor in a certain percentage of cases and would probably be a much larger factor if we considered not merely coronary heredity but arteriosclerotic heredity. There is a strong suggestion that infection, even minor infection, is a more important factor than it has hitherto been considered, and there is likewise evidence that either emotion or unusual physical exertion may play the part of the exciting rôle in an attack of coronary thrombosis.

158 WHITNEY AVENUE.



LOCAL ANESTHESIA

THE advent of local anesthesia marks a definite progress in the treatment of fractures because it enables us to bring the patient painlessly before the screen of the x-ray and permits a smooth reduction of the fracture. The application of the securing bandages is much easier because the patient keeps still and does not make any disturbing movement.

R. Demel, M.D., In *Indian Medical Record*, August, 1938.

Coronary Thrombosis

WITH AND WITHOUT THE AID OF THE ELECTROCARDIOGRAM

Historical Coronary thrombosis, as a well recognized clinical entity, is of comparatively recent origin.

Up until 1910 but very few cases were diagnosed *intra vitam*. Hammer,¹ in 1878, reported a case diagnosed during life, which at the autopsy showed a thrombus plugging the mouth of the coronary artery. In 1881, Cohnheim,² stimulated perhaps by the report of Hammer, tied the left coronary in experimental animals, but the animals died in two minutes. He was quite familiar with the course and distribution of the coronary vessels, and attempted to inject them. He concluded that they were end arteries and had no anastomoses or very slight ones.

Kolster,³ in 1893, ligated or pinched with a forceps the coronaries in animals and produced thrombosis. He killed his dogs at the end of six or seven weeks and demonstrated infarcts in the myocardium.

Porter⁴ (1893-94) performed similar experiments in a search for a nerve center in the musculature of the heart, and produced infarcts in the distribution of the artery.

Michaelis,⁵ in 1894, tied smaller branches of the coronary vessels first, and then larger and larger ones, producing infarcts successfully.

In 1907, Hirsch and Spalteholz⁶ did a beautiful piece of work. They tied the coronaries and produced infarcts. After several weeks they autopsied the animals and injected the coronary circulation by a special technic. They then x-rayed the hearts, which showed very clearly the distribution of the coronary arteries and established beyond peradventure that

JOSEPHUS T. ULLOM, M.D.

Philadelphia, Pa.

there is a rich anastomosis.

In 1910, Obrastzow and Straschesko⁷ reported three cases of coronary thrombosis, two of which were diagnosed during life and one at the autopsy table. The two diagnosed during life also died and were autopsied. They review the literature and state that the condition is not mentioned in contemporaneous books on Practice nor in work on Heart disease. They also state that with the exception of Hammer¹ they are the first to diagnose the disease during life and prove it by autopsy.

In 1912, Herrick,⁸ of Chicago, reported a case of coronary thrombosis and states in the discussion that it is possible for patients to live for some time or even recover temporarily from this disease. In 1918, he again makes a report and cites experimental work by F. M. Smith⁹ to show that the electrocardiogram would make a diagnosis of the condition.

In 1920, Pardee¹⁰ described the sign which bears his name and suggests that it is diagnostic of infarction.

At first it was thought that it was only possible to diagnose left or anterior thrombosis, but later it was found that both arteries produce characteristic tracings.

Important and interesting papers dealing with the development of electrocardiographic diagnosis of this condition have been published by F. M. Smith (1923),⁹ Rothschild, Mann and Oppenheimer (1926),¹¹ Clarke and Smith (1926),¹² Parkinson and Bedford (1927-29),¹³ Barnes and Whitten (1927),¹⁴ Wilson, MacLeod, Barker, Johnston and Klostermeyer (1932-33),¹⁵ Wolferth and

From the Chestnut Hill Hospital.

Wood (1932),¹⁶ Wood, Bellet, McMillan and Wolferth (1933),¹⁷ and numerous others.

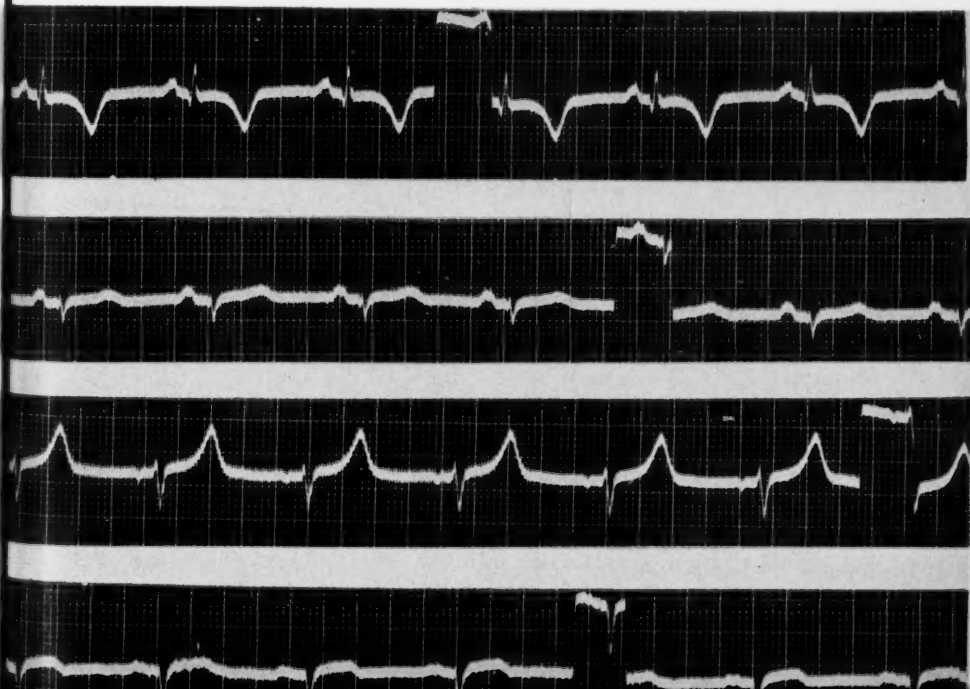
Anatomy and Pathology

IT had been known for years that a fibroid condition of the heart muscle was apt to exist in aging individuals, and rupture of the heart, areas of softening or infarcts, sclerosis of the muscle, either patchy or general, and aneurysm of the heart wall have all been found at autopsy, but it was thought that sclerosis of the vessels with resulting diminution of the blood supply was the cause of these various pathological conditions. Acute thrombosis of the coronaries also had been found but was thought to be a terminal event. The first experimental ligation of the coronary vessels in animals produced death within a few minutes. Later, in 1907, Hirsch and Spalteholz¹⁸ showed that infarcts could be produced in experimental animals, and by injection and x-ray of the animals' hearts showed that the arteries

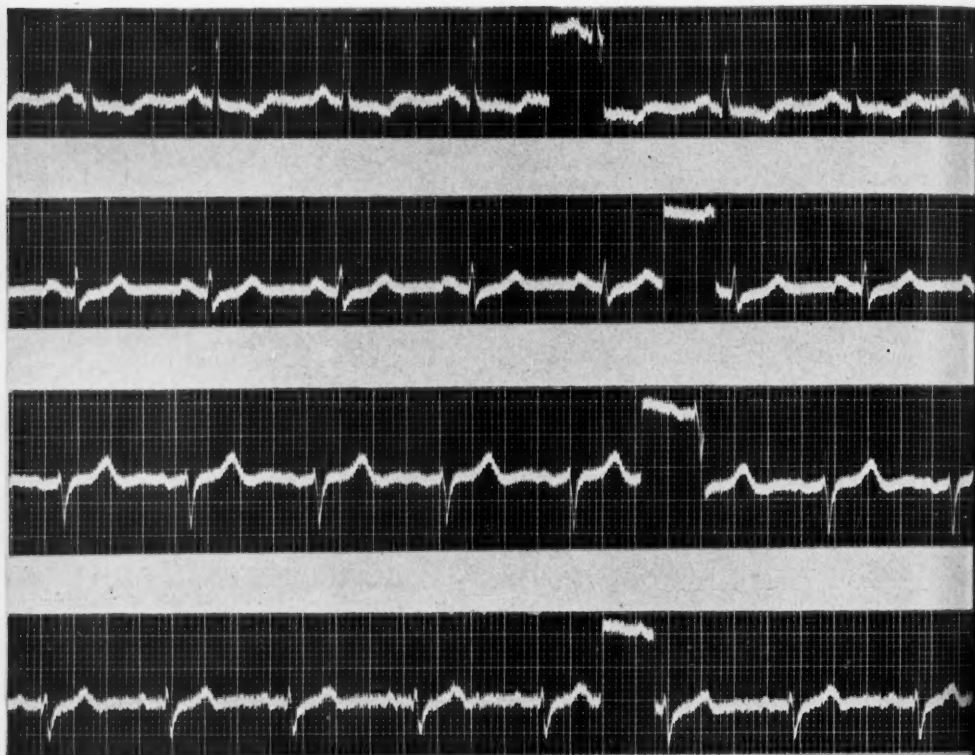
were not end arteries and that there was a rich anastomosis.

Barnes and Whitten,¹⁹ in 1929, did a similar piece of work on the circulation of the human heart. They showed by injection and corrosion that the left artery supplies all the anterior surface of the left ventricle and the adjacent one-third of the anterior surface of the right ventricle, all of the apex of both ventricles and the anterior two-thirds of the intraventricular septum, and one-half of the basal three-fifths of the posterior surface of the left ventricle. The right coronary artery supplies two-thirds of the anterior surface of the right ventricle, except the apex, all the posterior surface of the right ventricle and one-half of the basal three-fifths of the posterior surface of the left ventricle, and the posterior one-third of the intraventricular septum. They found that the small branches of the left coronary are given off at right angles to the main trunk and perforate the muscle, firmly

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fixing the main trunk, while the right coronary has a more or less superficial position.

It has been thought that occlusion of the anterior or left coronary is more frequent, but some observers feel that occlusion occurs in the two vessels with equal frequency. Usually, occlusion occurs in persons above middle-age where there is arteriosclerosis of varying degree in the coronary vessels, but it can occur in younger individuals. There is apt to be pericarditis if the occlusion takes place in a superficial location, and if there is involvement of the endocardium there may be intraventricular thrombi. When the infarct is large there may be rupture of the heart or aneurysm of the wall. There are often deposits of lime salts in the infarct to such an extent as to cause plaques. Thrombosis can take place in a large

vessel or in a small one. Naturally, the occlusion of the large one is apt to be more serious, and that of the small vessel may produce signs or symptoms that are difficult of recognition.

Symptomatology

THE symptoms of acute coronary occlusion are similar to those of angina pectoris but are apt to be more severe and not so transient. In some instances the patient has never had any symptoms referable to the heart but more often attacks of so-called angina have been occurring for some time. By angina pectoris is meant a pain usually substernal, but sometimes epigastric, radiating to the left shoulder and down the left arm. Sometimes it radiates to both shoulders and at other times to the back or the neck. It is often accompanied by

dyspnea. At times the attacks, which usually occur on exertion or after a heavy meal, are characterized chiefly by dyspnea with an accompanying sense of oppression which later becomes a pain. Occlusion of the coronary arteries is manifest by an attack of this same character but much more severe. The pain is excruciating with the radiation above mentioned. There is dyspnea, palpitation, sweating, nausea and vomiting, and noisy belching. The pain per-

sists and often comes on in waves. The patient very often is convinced that the attack is gastric, particularly if it is accompanied by nausea and vomiting.

Physical Signs

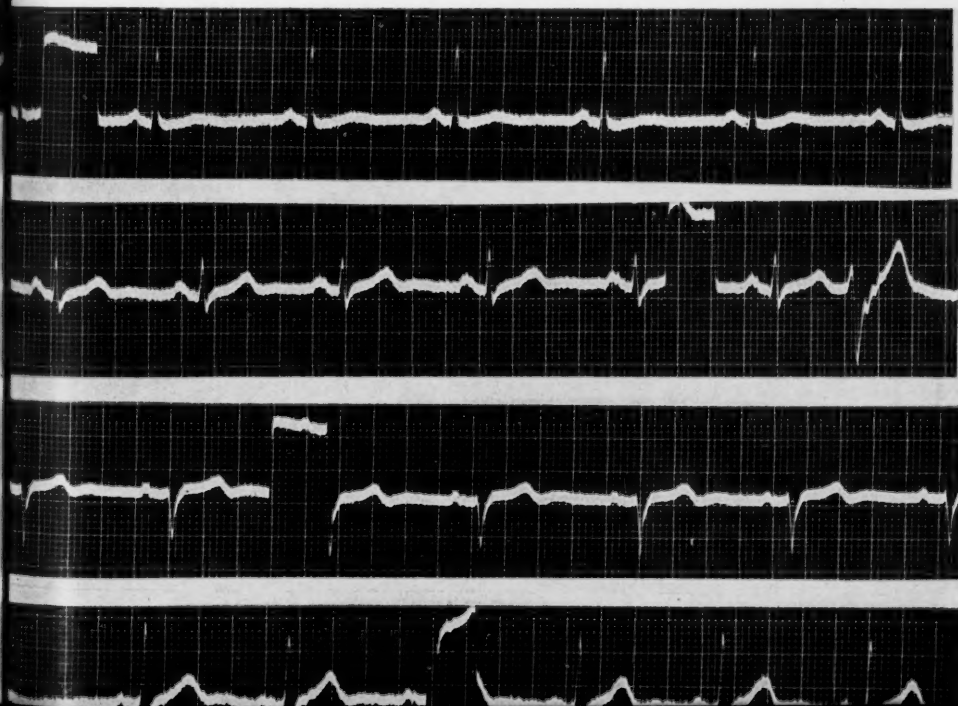
EXAMINATION shows a patient in great distress. The face may be very pale or cyanosed. The face and the entire body may be bathed in perspiration. The heart may show enlargement to percussion but is often normal in size. The rate may be slow, 60 or even below this, or it may be rapid, 110-130. On auscultation the heart tones are weak and distant, and there may be a tic-tac rhythm or a gallop rhythm. Occasionally a systolic murmur is heard at the apex or at the base due to sclerosis, but this is not generally the case. A pericardial friction rub may be heard, particularly on the second or third day. The pulse is feeble and the blood pressure low. Coronary oc-

Case I.

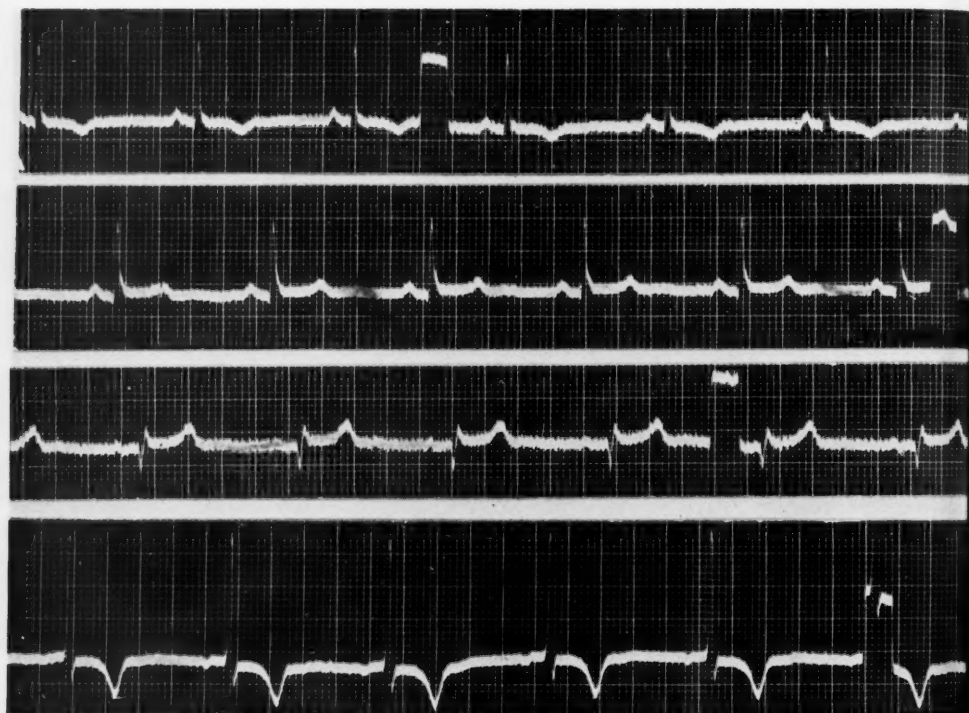
(T.A.C.)

- 11/26/37 Lead I—T wave somewhat flattened.
Lead III—Left axis deviation.
3/29/38 Lead I—T wave moderately inverted.
Lead III—T wave moderately elevated.
Left axis deviation.
Lead IV—R wave shortened.
S wave lengthened.
4/27/38 Lead I—T wave markedly inverted.
Lead III—T wave markedly elevated.
Lead IV—T wave markedly flattened.
R wave absent.
S wave lengthened.

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clusion is not often found in patients with extreme hypertension, pressure of from 130-170 being the rule, but after an attack the pressure drops often to 100 or below and slowly returns to normal over a period of weeks. At the time of the attack the temperature is apt to be normal or below, rising to 100-101 degrees in twenty-four hours and persisting for several days. There is usually a moderate leukocytosis, 10,000 to 20,000. The acute symptoms last for several days to a week, leaving the patient weak and apprehensive but comfortable.

Electrocardiography

UNTIL the report of Herrick,⁸ the electrocardiogram as a diagnostic agent had not been used in coronary thrombosis, and even after he had called attention to the disease the diagnosis was most often made on the symptoms enumerated

above. However, Smith⁹ found changes in the electrocardiogram following ligation of the left coronary in dogs, and Pardee¹⁰ described the alteration in the tracing in coronary thrombosis which bears his name. This consisted of a high take-off of the S-T interval from the descending limb of the QRS complex, followed by the subsidence of this change and the substitution of a more or less inverted T in the next few days. This occurred in Leads I or III, and the inverted T in one was accompanied by an elevated T in the other. Lead II usually showed a change similar to Lead I or III, but in a lesser degree. Occasionally, when there is involvement of the septum and the bundle of His, examples of partial heart block are seen. Following Pardee's¹⁰ work and elaborating and confirming it were Rothschild, Mann and Oppenheimer,¹¹ Parkinson and Bedford,¹² Barnes and Whitten,¹³ and many others,

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until now it is generally accepted that given a patient with symptoms of coronary thrombosis, an inverted T_1 indicates an occlusion of the anterior or left artery, and an inverted T_2 a posterior or right occlusion.

Work, also, by Wolferth and Wood,¹⁶ and Wood, Bellet, McMillan and Wolferth¹⁷ produced chest leads, which give confirmatory or additional information and sometimes show changes before they appear in the classical leads. As first used the precordial leads were as follows: the right arm electrode was placed over the apex of the heart and the left arm electrode at the angle of the left scapula. Then tracings were taken as with the classical leads and they were numbered IV, V, and VI. Usually IV only was taken. This gave a tracing

with an inverted P, a well marked Q and an inverted T. An absent Q or an upright T signified infarction. Of late, in an effort to standardize and make the tracing conform to the classical leads, the left leg electrode is placed on the apex beat and the left arm electrode is attached to the left leg, and the galvanometer is placed on Lead III and a tracing taken. Normally the tracing shows upright P, R and T waves and departures from this are of the same significance as if occurring in the classical leads.

Much work has been done and is still progressing in an effort to correlate the pathology and electrocardiography of this disease and undoubtedly new developments may take place.

Case II.

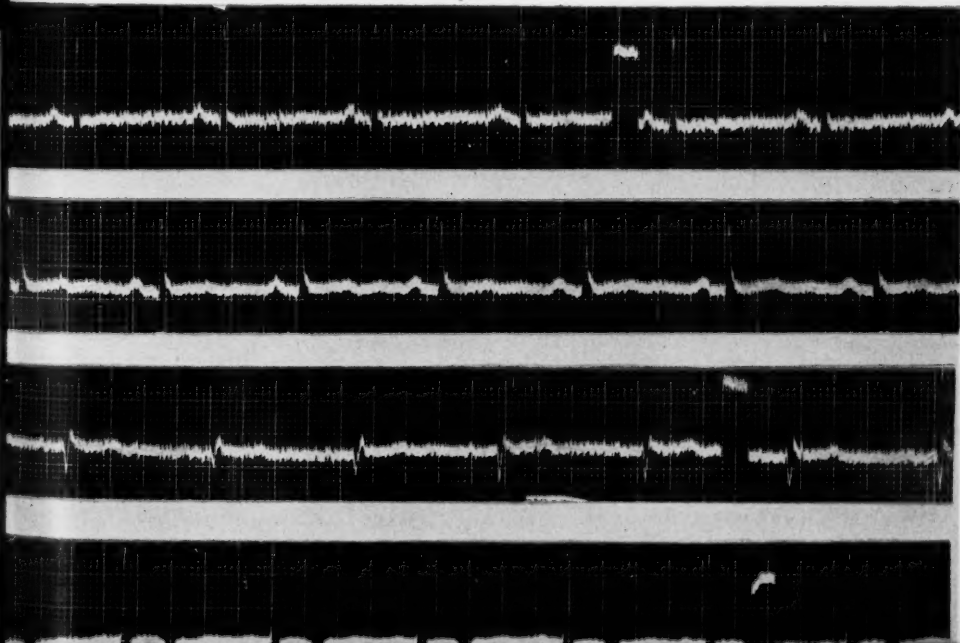
(W.H.H.)

11/25/38 Lead I—T wave flattened.
Lead II—T wave flattened.
Lead III—T wave slightly flattened.
Lead IV—T wave inverted.
11/26/38—Lead I—T wave inverted.
Lead III—T wave elevated over preceding tracing.
Lead IV—T wave markedly inverted.

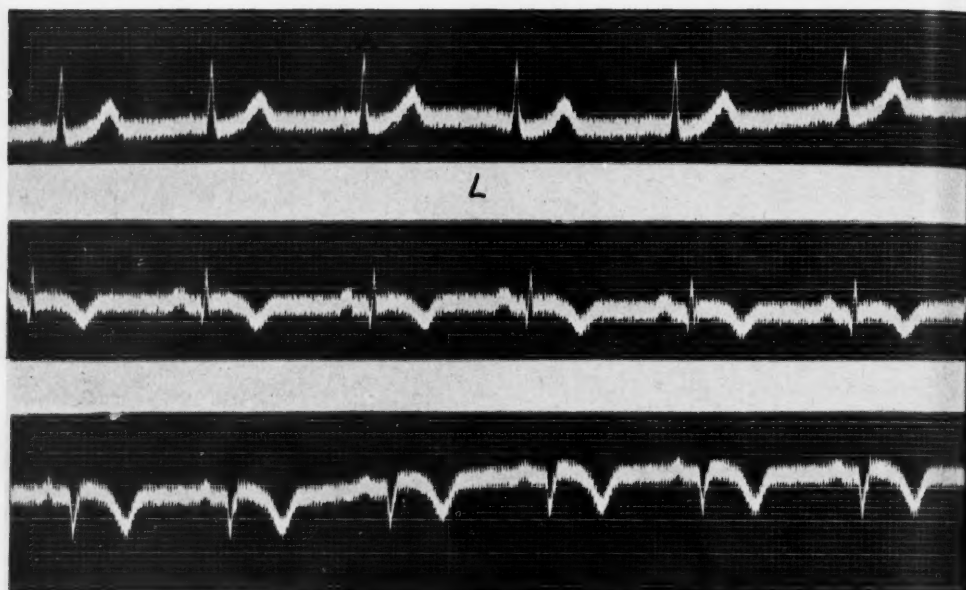
Discussion

BEFORE the routine use of the electrocardiogram in the recognition of coronary thrombosis, probably only the most severe cases were diagnosed. The moderately severe and the mild attacks were not recognized or not recognized

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CircumstanceSupineDate 11/25/38



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 CircumstanceProneDate 7/25/32



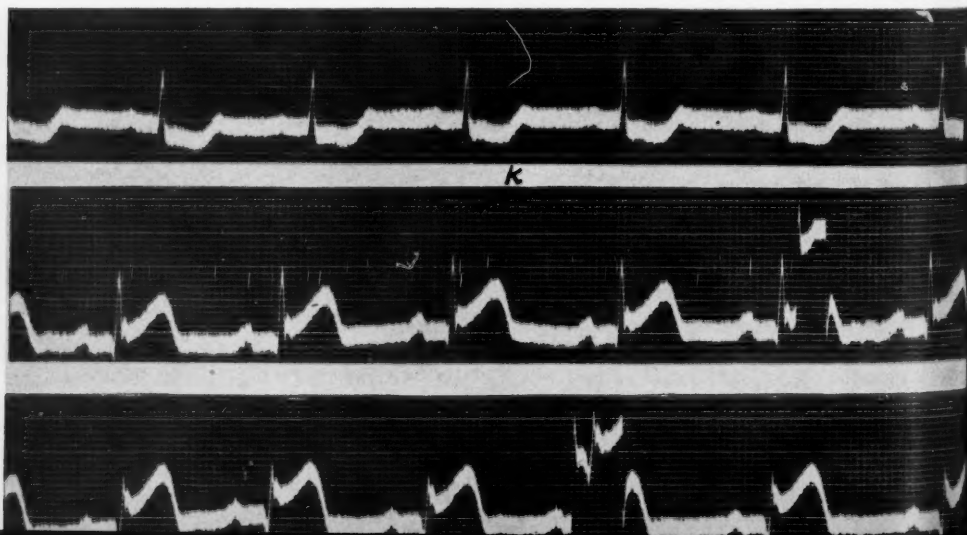
Case III.

(W.L.)

7/23/32 Lead I—S-T interval diphasic.
 Lead II—High take-off of S-T interval.
 Lead III—Very high take-off of S-T interval.

7/25/32 Lead I—T wave slightly elevated.
 Lead II—T wave markedly inverted.
 Lead III—T wave very markedly inverted.

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at a time when the greatest benefit to the patient has been obtained.

The differentiation between angina and occlusion is difficult to make, and it was common practice before 1920, when coronary occlusion began to be discussed, to allow patients with precordial pain of all grades of severity to leave their beds, walk about the room, and even go back to their daily routine as soon as they felt able to do so. This led naturally to many tragedies which in the light of our modern knowledge could have been averted. Even when a diagnosis of coronary occlusion was made on the clinical symptoms, it was difficult without the positive proof afforded by the electrocardiogram to secure the cooperation of the patient with regard to the prolonged rest which is so essential. Today, with the electrocardiogram, an early and positive diagnosis can be made and the proper treatment instituted at once. The importance of the prolonged rest is more and more appreciated, both by physician and patient, and better results are obtained.

The portable machine has been of great help, for a journey to a hospital is not necessary. It eliminates the physical exertion and emotional upset of such a procedure.

It is not necessary or desirable, considering the wealth of papers upon this subject, to report in detail a great many case histories, but a few illustrative examples may be of value.

Two anterior and two posterior occlusions are introduced, the anterior with Lead IV, the posterior without. Both posterior occlusions showed remarkable changes which it is desirable to report, and both were seen before the fourth lead was used by the writer.

Illustrative Cases

Case I.

A STATION agent of 62 years, who had been treated medically for duodenal ulcer ten years before and subsequently had a posterior gastro-enterostomy, began to have pain which he at first thought was digestive. Later he found that it came on exertion and was typical in character. It became worse and electrocardiograms were made. They

disclosed a left axis deviation and a low T₁. The pain persisted but would be helped by nitroglycerin. Finally, on March 29, 1938, he had a very severe attack after dinner, accompanied by nausea, vomiting and sweating. His blood pressure, usually 160/90, fell to 100/70. Morphia was required to relieve his pain. The next day his temperature was 101 degrees, and this persisted for several days. He had a leukocytosis of 11,400.

A tracing taken at this time showed an inverted T₁ and a T₂ more elevated than in the tracing four months previous, while R₁ was shortened and S₁ lengthened. One month later T₁ was markedly inverted, T₂ markedly elevated, R₁ had disappeared and S₁ was markedly lengthened.

The patient was put to bed on March 29, 1938, and stayed there six weeks. He made an excellent recovery and can walk several squares without pain.

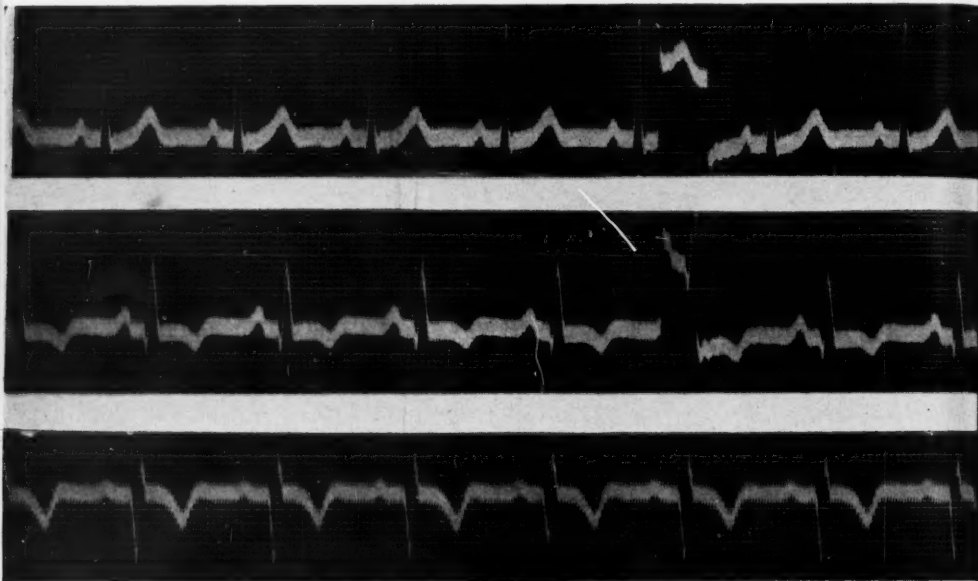
Case II.

A MAN of 55 years, who had had a cholecystectomy ten years ago, had some precordial pain one year ago, but the electrocardiogram showed only slightly flattened T waves.

Several months ago, October 28, 1938, he became somewhat breathless upon exertion and later had precordial pain. This became so bad that he was ordered to bed although electrocardiograms showed no change from the one a year ago until November 25, 1938, when a slight inversion in T₁ was seen. On the night of November 25, 1938, he listened to an exciting prizefight over the radio. At four o'clock the next morning he had a very severe pain which required morphia. At six o'clock this had to be repeated. His electrocardiogram taken November 26, 1938, showed an inverted T₁ with elevated T₂ and markedly inverted T in CF₁. His blood pressure has been low (120/90) during the time he has been in bed but did not fall after this attack. His leukocyte count is 8,230. His temperature is 97.4 degrees.

This case is rather unusual because the pain of the severe attack was not much worse than a previous one ten days ago, and there has been up to date no

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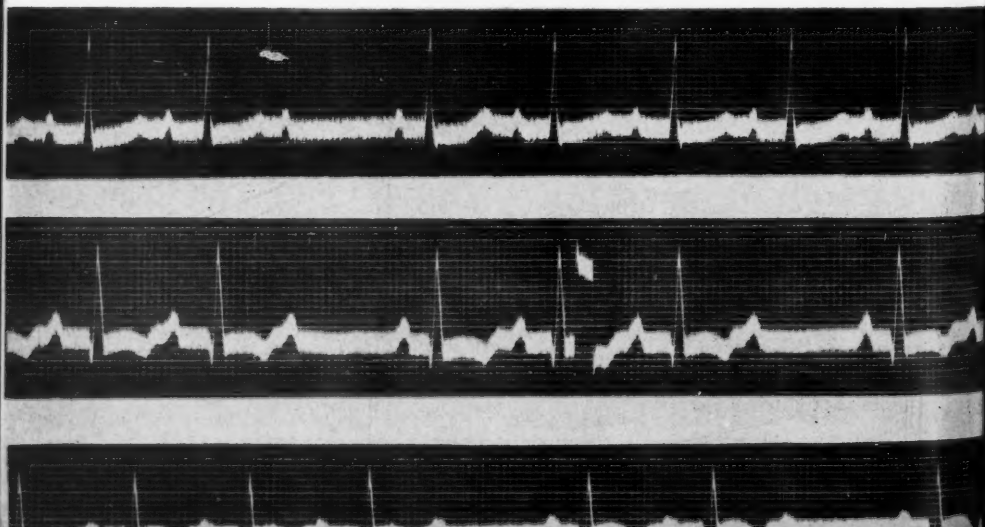
Case IV.

(A.L.E.)

7/6/32 Lead I—Heart block.
 Lead II—Heart block.
 T wave inverted.
 Lead III—Heart block.

7/13/32—Lead I—T wave inverted.
 Lead II—Normal.
 Lead III—T wave inverted.
 Lead III—T wave inverted.

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fall in blood pressure nor rise in temperature. Under old methods the attack would probably have been called angina and a tragedy would have occurred.

Case III.

A MAN of 39 years, without previous history of pain, after an evening spent playing cards and eating and drinking immoderately, was seized with agonizing pain in the epigastrium, radiating to his left shoulder. He was in a state of shock when seen, vomiting and sweating, with a weak pulse rate of 68, and a blood pressure of 100/70. His pain required morphia.

The tracing taken July 23, 1932, showed a typical Pardee curve in Lead III. There was a very high take-off of the S-T factor in Lead III with a slightly less marked change in Lead II. The S-T factor was depressed in Lead I. Lead IV was not taken. Two days later another tracing showed a marked change. T₁ and T₂ were markedly inverted and T₃ was upright. These tracings showed the most striking change in a short time of all the tracings seen.

The patient made a good recovery and as far as known is still living.

Case IV.

A MAN of 58, with a moderately elevated blood pressure, 160/90, had what appeared to be a digestive upset. He had eaten crabs for supper, and had nausea and vomiting and rather severe epigastric pain during the night. When seen by a physician at eleven o'clock the succeeding morning, he was up and dressed, stated that he was much better and apologized for calling the doctor. He returned to work, but one week later came home feeling very bad and stated that while climbing a staircase that day he had had to sit down, feeling that he was going to die. Examination showed a temperature of 100 degrees, a somewhat irregular pulse, a fall in blood pressure to 130/100, and a leukocytosis of 9,700.

The tracing taken July 6, 1932, showed a heart block and inverted T₁ and T₂. A tracing taken July 13, 1932, showed the block to have disappeared, but the inversion of the T wave in Lead II and Lead III persisted.

He made a good recovery but died in a subsequent attack eight months later.

Differential Diagnosis

CORONARY occlusion is often confused with ruptured peptic ulcer and attacks of gallstone colic, but attention to the history and above all the electrocardiogram makes an accurate diagnosis. Within a month, a case diagnosed as ruptured ulcer was seen, a tracing was taken and found normal, and the surgeon operated with a happy result.

Prognosis

THE prognosis is guardedly favorable. If seen early and placed at rest the results are generally gratifying.

Histories of 68 patients seen privately, either in the writer's practice or in consultation, in whom the final result is known, showed 8 dead in the first attack. Of the remaining 60, 5 died in subsequent attacks. In 3 instances the subsequent attack was brought about by gross indiscretion and failure to obey orders. Others died of cerebral thrombosis and prostatic disease. One patient died in the summer of 1938 of cerebral thrombosis, his coronary occlusion occurring in 1926. Of the living, 7 are very much restricted in their activities, 14 are moderately restricted and 29 live normal lives.

Statistics

IN all, 82 patients have had tracings; 46 have shown anterior occlusion, 36 posterior occlusion. There were 55 males and 27 females.

Treatment

THIS consists of rest in bed for six weeks or longer if necessary. The rest should be complete with use of urinal and bed pan. Rest must be mental as well as physical. For the first four weeks, but one pillow should be used, and the patient never allowed to sit up but only to turn from side to side. After four weeks, two pillows may be used. Food should be light and easily digested. Mild laxatives should be used. Straining at stool should not be allowed. Medicines other than sedatives are unnecessary. Morphia must usually be used for pain.

Later bromides or barbiturates can be used for nervousness or insomnia.

Conclusions

1. The electrocardiogram has revolutionized the diagnosis and treatment of coronary occlusion.
2. It is positive and accurate and con-

vincing to the patient.

3. It should be used in all cases of pain in or near the precordium and particularly in anginoid attacks.
4. All middle-aged individuals should have electrocardiograms taken as a basis for comparison in case of attacks of precordial pain.

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ACIDITY OF THE VAGINA

NATURE has an elaborate mechanism to produce and maintain an acid vagina. The new-born female has an acid vagina for a few days. This is because estrin has passed from the mother's placenta to the baby. Estrin produces vaginal desquamation, and these vaginal cells when fermented by bacteria and enzymes produce the acid pH. Vaginas have a pH of 6.5 when this action wears off, and do not become acid again until the ovarian activity of the individual is ripe for menstruation. At menopause the degree of acidity depends on the estrin circulation of the individual.

Melvin A. Roblee, M.D., in *Archives of Physical Therapy*, July, 1938

A CLINICAL STUDY OF

Coronary Occlusion

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and

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CORONARY occlusion is one of the fairly common pathological conditions encountered by practicing physicians. The following investigation was made on patients observed during the last three years on Division 1 of the Medical Service of the Coney Island Hospital in order to ascertain as many facts as possible about the individuals in whom the attacks occurred.

The study included 57 patients who died while in the hospital, and 43 who were living at the time of discharge. There were 21 females (21 per cent) and 79 males (79 per cent), as shown in Table 1, which also covers the age periods. No case occurred under thirty-one years of age.

The disease is more common in males than females, the ratio being approximately 4 to 1. Autopsies were obtained in only five instances. The findings were confirmatory of the clinical diagnosis.

Number of Attacks Recorded

OF the patients who died, ten had had no previous attacks; six cases had one attack; four cases, two attacks; seven cases, three attacks; and three had had anginoid pain in the chest before occlusion occurred. Of those who recovered, thirty cases had had no previous attacks; ten cases, one attack; and three cases, two attacks. This experience bears out autopsy experiences. A physi-

cian can give assurance to most patients during the first attack.

Knowledge of Heart Disease

THIRTY-NINE of the patients had knowledge that they had some difficulties with their hearts before admission to the hospital or before they had an attack of coronary occlusion. Fifty-eight patients had symptoms but they did not know the symptoms indicated a heart lesion. In three instances no data were recorded. The data demonstrate quite clearly that the cardiac status of patients is receiving indifferent attention.

Cardiovascular Symptoms Before Attack

THE cardiac symptoms where recorded should have stimulated the examining physician to make a careful cardiological examination. The symptoms were precordial distress in sixteen cases; dyspnea in thirty; dyspnea with pain, seven cases; dyspnea with palpitation, four cases; paroxysmal nocturnal dyspnea, three cases; cardiac decompensation, one case; hypertension, three cases; asthma, one case; not recorded, three cases, and no symptoms in thirty-two cases.

Type of Pain with Radiation

THE pain of coronary occlusion is protean in its distribution. Precordial and substernal pain occurred in thirty-three cases; precordial pain with radia-

From the Medical Service of the Coney Island Hospital.

MEDICAL TIMES, FEBRUARY, 1939

TABLE I

Decade	Male	Female
31-40	7	0
41-50	23	1
51-60	28	4
61-70	14	7
71-80	5	7
81-90	2	2

tion to left shoulder and arm, sixteen cases; epigastric and referred to the left shoulder, fourteen cases; pain in both sides of the chest, ten cases; precordial pain to the shoulders and arms, five cases; precordial pain referred to the epigastrium, one case; precordial pain referred to the right arm, three cases; precordial pain referred to the back, one case; pain in both sides of the chest and referred to the neck, three cases; precordial pain with dyspnea, five cases; pain in the left upper abdominal quadrant, one case; precordial pain without radiation, five cases; not recorded, three instances. Precordial pain in patients thirty-one years of age and over should stimulate thought concerning the pathological state of the coronary arteries.

Temperature on Admission

THE presence of temperature is considered an important diagnostic criterion. In this study the temperature on admission was 98°F. in sixteen cases; 99° in fourteen cases; 100° in twenty-one cases; 101° in sixteen cases; 102° in eighteen cases; 103° in eleven cases; 104° in three cases; 105° in one case. Eighty-four cases had a temperature above normal. The temperature if taken will aid in establishing a correct diagnosis of coronary occlusion.

White Blood Count

LEUKOCYTOSIS is considered an important laboratory finding. In thirty-four cases the white blood count was above normal. In all instances the differential count was normal. The white blood count has received undue emphasis among the diagnostic criteria.

Electrocardiographic Changes

DEFINITE evidences of electrocardiographic myocardial disturbances of varying degrees were found in all cases. In sixty-seven cases, more or less typical evidences of recent or old coronary occlusion were found. The electrocardiogram is of paramount importance in the study of cases suspected of having coronary occlusion.

Enlarged Heart

ENLARGED heart was found in seventy-three instances, and not stated in twenty-seven cases.

Occupation at Time of Onset

THE relationship of coronary attacks to exertion has always been a subject of concern. The patients were in bed in twenty-nine instances; out of bed but unoccupied in fourteen; while working in the morning, four; while working in the afternoon, nine; while working in the evening, three; sitting quietly during the evening, four; after dancing, two; after eating, six; after playing cards, one; while sitting in the subway train, two; in Turkish bath, two; not recorded, twenty-four. The attack is apparently not produced by physical exertion.

Occupation

THE relationship of physical labor and mental stress to coronary lesions has created much discussion. The occupation of the twenty women as housewives may be ignored. Tailors, operators, or pressers lead the male occupations, totaling sixteen cases; salesmen, thirteen; laborers, eleven; storekeepers, eight; no occupation, six; carpenters, four; blacksmiths, three; shoemakers, three; printers, three; butchers, three; clerks, two; plumbers, two; interior decorators, two; actor, one; civil engineer, one; painter, one; plasterer, one. All occupations are involved. Clothing workers head the list. They were all Jews. As another type of occlusive vascular disease is more common in Jews than other races, some similar mechanism may be responsible for the greater incidence of coronary occlusion in persons engaged in the manufacture of clothes, and the occupation itself may have no significance.

Gastro-intestinal Symptoms

THE gastro-intestinal tract presents symptoms in a goodly percentage of cases. The most common complaint is constipation, which occurred in seventeen cases; belching, twelve; epigastric pain, nine; poor appetite, eight; nausea after eating, three; heartburn, three; appendectomy, two cases, one four months previously and the other eight years before; cholecystectomy, one case six months previously; gastric ulcer, one case operated on eight years previously; not recorded, nineteen cases; no gastro-intestinal symptoms in thirty-eight cases.

Arteriosclerosis

AUTOPSY studies have shown peripheral arteriosclerosis in all patients examined after death from coronary occlusion. The presence of arteriosclerosis was looked for carefully in all cases and it was present in ninety-nine instances and absent in one male case.

Blood Pressure Readings

THE blood pressure was carefully studied in all cases. The systolic blood pressure was above 120 in forty-three cases; below 120 in forty cases; and 120 in two cases. The diastolic blood pressure was above 70 in fifty-eight cases, below 70 in nineteen cases, and 70 in eight cases. In fifteen cases the blood pressure was so low on admission that accurate readings were not possible. Alteration in blood pressure prior to oc-

clusion is an inconstant and perhaps an incidental phenomenon in patients with coronary sclerosis.

Comment

CORONARY occlusion occurs most frequently in males forty years or more of age. It does not cause death as a rule in the first attack. The attack is associated with fever in most instances. Suggestive or definite electrocardiographic evidences of myocardial change exist in practically all cases. Exertion apparently has no causal relation to the primary attack. No information is available to explain the attack, but the assumption is sound that it is due to a sudden local chemical change in the cells involved with consequent alteration in the output of electrical energy. The attack might be expressed as the result of a short circuit.



Benign

ANGINA PECTORIS

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ANGINA pectoris is the name of a symptom which has become established in medical usage as the name of a disease, so-called, of the heart. This disease includes cases which die and on autopsy show significant pathological changes in the heart, and it includes cases which recover from what apparently caused the symptom.

In the classification of this symptom disease there appears some confusion. A widely accepted classification divides the cases into "true" and "false" angina pectoris. Mackenzie makes a classification of primary and secondary angina

pectoris, and includes, in the latter group, the cases in which "there is no disease of the heart." White says that angina pectoris "may vary from very mild to very severe."

A convenient classification might be the simple clinical one of the cases which die and those which get well, or of the grave and benign angina pectoris.

HOW shall we differentiate the benign from the grave angina pectoris?

We do not find the necessary data for such differentiation in the character of the angina itself. Mackenzie says that "there is no difference in the attacks. The pain comes on in the secondary angina in the same way as it does in the primary, except that the attacks, apart from exertion and such sensations as

chilliness and shivering, are more common."

It is evident that this differential diagnosis depends on factors and circumstances outside of the angina itself.

Fundamental in this diagnosis is knowledge of how the symptom is brought about. Brooks says that "Huchard is said to have listed forty-seven different explanations of the mechanisms of angina pectoris."

An essential factor in the production of the anginal symptom is the nervous system, and pain carrying nerves are involved. The heart has no immediate connection with pain carrying nerves. So if the heart would advertise its condition by the angina pectoris method, it must do so through the establishment of a connection with pain carrying nerves. It does this by shunting impulses emitted through its non-pain carrying nerves into conveniently placed pain carrying nerves, through which they are conveyed to the central nervous system. This, in brief, is Mackenzie's explanation.

These two factors, the cardiac and the nervous, are the fundamental factors involved in the production of angina pectoris. They may be variously influenced by outside factors.

HOW does the cardiac factor give rise to the impulses that are translated into pain and interpreted as angina pectoris?

Mackenzie says that it is myocardial exhaustion which gives rise to these impulses. This exhaustion would seem to be due to relative myocardial overaction, especially in the presence of an insufficient blood supply. Such insufficient blood supply may be brought about by local arteriosclerosis and by arterial spasm or spasticity. It may also conceivably be brought about, or contributed to, by abnormally low intra-aortic blood pressure which lessens the flow of blood into the coronary arteries. The sclerotic arterial conditions appear to produce this myocardial ischemia in a more regular manner than do the functional arterial conditions. Lewis calls attention to an indication pointing to arterial sclerotic causation of angina pectoris, which appears in the response to effort.

He says, speaking of Heberden's angina: "It is a rule that there is a given tolerance for work, constant within narrow limits. Patients with this malady do not relate that on one day the attack is brought about only after walking briskly, and that on the next it occurs spontaneously while the patient is resting quietly and undisturbed . . . When [such] inconsistencies are obvious and frequent, the case is rarely Heberden's angina pectoris. In angina of effort the pain of a given grade recurs with repetition of a particular act."

THE cases of angina in which lessening of the blood supply of the myocardium or parts of it is due to arterial spasm or spasticity are less definitely classified. These cases, as well as those with a pathological anatomical basis, are subject to variations in severity corresponding to variations in the degree of the excitability of the nervous system. The functional cardiac cases are especially liable to be influenced by outside factors, as toxemias and neurasthenias. The differential diagnosis may sometimes be made by the therapeutic method, by removing the outside disturbing factor.

The functional disturbance referred to as coronary vascular spasticity is suggested by the analogy of the behavior of other muscular tubes in the body. This is a speculation, but taken in connection with another speculation, viz., that of vascular peristalsis as a motive factor of the circulation, it seems to throw light on the production of angina pectoris in some cases, and especially in those without demonstrable organic changes in the heart. It suggests an explanation of how toxic agents may produce myocardial ischemia and angina pectoris.

Besides the cardiac factor which is responsible for the emission of the impulses that are translated into angina pectoris, and the nervous mechanism which effects that translation, the degree of the excitability of the nervous mechanism, to which reference has been made, must be taken into account in every case. The impulses from the heart and the excitability of the nervous system are variables; they determine the angina, subject to outside influences. Mac-

kenzie says: "Pain may arise from the great increase in the number of impulses, or from the increased excitability of the central nervous mechanism concerned in the production of pain. The former accounts for the pain of angina pectoris due to the heart, the latter accounts for the pain of angina pectoris when there is no disease of the heart."

IN the light of this conception of how angina pectoris is produced the differential diagnosis of the benign from the grave angina is made. This is not difficult in some cases, but it is extremely so in others. And there is a large intermediate group of doubtful cases.

From the symptom itself we get no help in this diagnosis; it is not essentially different in the two classes of cases, as has already been mentioned.

The manner of excitation of the symptom suggests some points of differential diagnosis, as has been said. The excitation in the benign cases is generally less regular than in those which have an anatomic pathological basis. The factor of nervous hyperexcitability plays a major role in excitation of the angina in the benign cases.

While the relation of meals to the excitation of the angina may not be essentially different in the two varieties, the amount of the influence exerted by this factor is apt to be less, or to be exerted less regularly, in the benign than in the grave variety.

The reaction to cold is also apt to be less pronounced in the benign than in the grave variety. Some benign cases seem to react not badly, or even favorably, to cold.

Age has some diagnostic significance. The grave angina predominates in the latter half of life; the benign angina is apt to predominate in the earlier and middle periods of adult life, although it may occur in later life.

It is a matter of observation that the benign angina is relatively more common in women than in men.

OF particular importance in making the diagnosis in doubtful cases is the past personal history of the patient, especially as regards previous attacks of the angina and previous dis-

eases and experiences that might bear on the development of a hyperexcitable nervous system. The presence of a chronic septic focus may have diagnostic significance, or a history of heavy smoking, or a history of nervous or emotional strain.

The family history is important. A family history of grave angina pectoris makes it more likely that the case in question is of the grave variety, as does also a family history of cardiovascular disease. A neurotic family history, on the other hand, favors the benign diagnosis.

The course of the disease is significant. While the grave angina may have remissions and be prolonged for many years, the benign variety is more apt to have long periods of freedom from the attacks; although the attacks, when present, may occur more frequently; but the former end fatally; and the latter may eventually cease, or the patient may die of some other condition.

In some cases only from the complete course can the diagnosis be determined.

It has been noted that in the grave angina the patient is apt to feel quite well between the attacks, while in the benign angina the patient is apt to be more or less out of sorts between the attacks, and perhaps to show evidences of a toxemia.

The patient's response to suggestive treatment has a significant bearing on the differential diagnosis. In the benign cases great benefit may result to the patient from assurance that his condition is not serious.



THE diagnosis of benign angina pectoris is possible in a large proportion of the cases; and it is highly desirable that this condition be differentiated from the grave angina; both for the sake of the treatment, and for the peace of mind of the patient; but in doubtful cases it is generally advisable to favor the grave diagnosis in the treatment, while giving the patient the benefit of the doubt.
1218 PACIFIC STREET.

THERAPEUTIC

Hyperthyroidism

COMMENTS ON THE INDUCTION OF MILD HYPERTHYROIDISM IN THE TREATMENT OF SELECTED CASES OF HYPOMETABOLISM

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THE induction of a transient morbid condition to modify another existing affection in the hope of restoring the patient to normal health is finding increasing favor among clinicians.

Artificial fever has been employed for a long time and with fair success in a number of diseases. Insulin shock is now a favored measure in the treatment of schizophrenia. The induction of myxedema by total removal of the normal thyroid in sufferers from congestive heart failure and angina pectoris has recently received widespread interest. Is there a place in medicine for therapeutic hyperthyroidism?

In a previous contribution¹ I reported the results of this form of treatment in 103 selected cases of various forms of hypometabolism. Of these, 52 or 50.5 per cent achieved recovery; 28 or 27.2 per cent were very much improved; 17 or 16.5 per cent were partly improved and 6 or 5.8 per cent were not benefited. In no case were prolonged untoward symptoms of induced hyperthyroidism observed.

The present comments are the result of deductions from further observation of the merits of therapeutic hyperthyroidism. Of course it must be understood at the outset that this form of therapy is applicable only to cases carefully selected by a clinician whose experience permits of individualization respecting subjective and objective symptomatology and the evaluation of metabolic findings.

The procedure of therapeutic hyper-

thyroidism consists of the administration of thyroid substance gradually increased to such dosage over such period of time as to induce symptoms of moderate thyrotoxicosis, for the purpose of

relieving conditions characterized essentially by hypometabolism responding tardily to the usual mode of treatment. Chief among conditions we found responding well to therapeutic hyperthyroidism are simple colloid goiter, selected cases of obesity, hypothyroidism without obesity, myxedema, and dystrophia adiposa genitalis. While in course of time these conditions commonly yield to conventional thyroid therapy, in our experience cautious overdosage served to expedite and accentuate recovery in most cases. In the interests of safety in treatment, preliminary mention of a few generalizations pertaining to thyroid administration is in order.

Contraindications to Thyroid Administration

THE following conditions are contraindications to thyroid administration: (1) the presence of earmarks of "Graves' constitution," or the actual existence of symptoms of exophthalmic goiter (Graves' disease), or of toxic adenoma; (2) a previous history of unusual sensitivity to thyroid substance; (3) established tachycardia from any cause; (4) organic heart disease with arrhythmia or congestive heart failure; (5) arterial hypertension without hypothyroidism; and (6) diabetes mellitus, tuberculosis and other wasting diseases and febrile conditions. Conditions in which thyroid medication should be considered with much caution are: (1) goiter of neo-

From the Bram Institute for Goiter and Glandular Diseases.

¹Therapeutic Hyperthyroidism, *Internat. Clin. 1: (Series 47) 48, March, 1937.*

plastic origin in which the basal metabolic rate is within normal limits; (2) nervousness; (3) undernutrition.

The fear of establishing a clear-cut thyrotoxicosis through ill-advised thyroid medication is well founded, as unpleasant surprises from thyroid ingestion are common. While it is generally believed that true exophthalmic goiter cannot be produced in man by the administration of thyroid, in the past few years we have seen a number of cases in which the typical syndrome followed several weeks of self-drugging with thyroid substance taken as a weight-reducing remedy. It is likely that these individuals possessed the so-called "Graves' constitution" as a lifelong characteristic. In the event of a family history of hyperthyroidism, thyroid, if given at all, should be administered in doses not greater than 1/10 gr. daily, and the patient should be examined at least twice a week. If after 2 weeks' trial this dosage appears harmless, it may be slowly increased until results are evident. A complaint of palpitation, nervousness or tremor must be interpreted as an unfavorable reaction and the drug must be either reduced or discontinued. We have followed the same rule in patients presenting a history of thyroidectomy for exophthalmic goiter; despite possible evidence of hypothyroidism following thyroidectomy, thyroid administration may flare up dormant residua of Graves' syndrome.

The Metabolic Rate

DESPITE many variables encountered, basal metabolic observations should be frequently employed as a guide to thyroid administration, together with frequent examination of the patient as a whole. In the average case therapeutic hyperthyroidism is reached when the basal metabolic rate is raised to between plus 15 and plus 20 per cent.

Occasionally an individual presents as a normal characteristic what might be termed a singular "metabolic habit," i.e., a basal metabolic rate several points above or below the conventional normal. If, for example, the patient feels best when the basal metabolic rate is minus 15 or minus 20 per cent, and feels ill when it is increased to zero or plus 5 per cent by thyroid administration, then his normal basal metabolic rate is minus

20, convention notwithstanding, and the status of therapeutic hyperthyroidism is produced by raising the basal metabolic rate to zero or to plus 5 or 10 per cent. The presence or absence of an increased heart rate, tremor, and the sense of well-being, along with a comparison of frequently taken basal metabolic readings, serve as guides. In the occasional person in whom the normal basal metabolic rate is above the standard by 5 or 10 points, therapeutic hyperthyroidism may not be possible until the rate rises to approximately plus 25 per cent. These exceptions occur in perhaps 4 or 5 per cent of human beings.

Rarely in a patient with a pulse as high as 90 per minute and a low metabolic rate the heart rate may become normal while under cautious thyroid medication. Such persons must be carefully studied prior to treatment with a view to ruling out contraindicating conditions. Naturally, the most favorable subjects for thyroid administration are those presenting a degree of overweight and a metabolic rate below minus 10 per cent. Nevertheless, we occasionally meet a patient who is underweight and who for the first time may succeed in achieving normal weight and strength as the result of cautious thyroid ingestion.

The taking of one test in a given case should never be accepted as the basis for treatment; in most cases two or three readings on consecutive days suffice for a relatively dependable decision. When under similar conditions in the same person basal metabolic readings vary markedly, it may be necessary to do six or eight tests on as many days and conclude by striking an average. The most frequent error in metabolic ratings occurs in the upper readings. Continued experience in this field lessens the absolute in favor of the relative value of the basal metabolic test.

Finally, we must not be misled by a situation in which, despite thyroid medication, the patient temporarily presents a momentum in the process of thyroid failure. Thus the individual requires increasing doses—often in apparent excess—to satisfy the clinical needs. It is only after a period of apparent saturation of the patient with thyroid that the basal metabolic rate begins to rise. When this happens the dose may be diminished, despite which the basal meta-

bolic rate may continue to rise satisfactorily. The average patient acquires a relative degree of sensitivity to thyroid substance in the course of time, which may be attributed to reactivation of the thyroid gland.

Dosage Employed

THE brand of thyroid to be employed is of importance. American firms manufacture the desiccated thyroid, which, roughly speaking, is 4 times the strength of the thyroid substance manufactured by European firms, as, for instance, Burroughs Wellcome. Unfortunately, this fact is frequently overlooked by the medical profession. For obvious reasons it is best to adhere to a given brand of thyroid substance throughout the course of the patient's treatment. In our series of cases desiccated thyroid was uniformly employed.

It is safest in thyroid medication to begin with minimal doses. Desiccated thyroid in doses of 1/40 to 1/20 gr. may serve the purpose in some cases, and an increase to 1 or 2 gr. administered twice or thrice daily must be approached very cautiously. In a dozen apparently similar cases requiring thyroid administration, variations in tolerance to the drug are marked.

One person may reach the point of therapeutic hyperthyroidism with a grain of desiccated thyroid daily; another may require 5 grs. or more daily to acquire like results. The possibility that primarily the thyroid function is not at fault, but that the thyrotropic function of the anterior pituitary shares in the responsibility, may require supplementary injections of the latter. This is apparently applicable to the obese who present a florid skin, normal heart rate, and a rather active mentality.

Patients under thyroid therapy must be regarded as under probation for the first two weeks, to be checked up at least twice a week at the start. The tolerance having been determined after two or three weeks of study, examination may be repeated at intervals of once a week. Results are usually tangible within a month. A patient may progress satisfactorily until a certain point is reached, when vague symptoms of toxicity appear despite moderation in dosage. This calls for a diminution or cessation of the

drug. Occasionally a patient appears unusually tolerant to thyroid substance. Having begun with a minimal dose, let us say of 1/10 gr. 3 times daily, the quantity is increased through a period of five or six weeks to as high as 3, 4 or 5 grs. 3 times daily without more than the desired evidences of therapeutic hyperthyroidism. The patient progresses toward the goal, and as this is approached the dose is gradually diminished until, when recovery is reached, the maintenance dose is employed. This may be ½ to 1 gr. daily, enough to serve as a prophylactic against recurrence of the original clinical picture.

Course of Therapeutic Hyperthyroidism

HE maximal symptoms to be expected under the definition of therapeutic hyperthyroidism are a rise in the heart rate not exceeding 90 per minute; a tangible quickening of physical and mental powers, and some flushing of the skin. Needless to say, if there is a weight problem this should receive supplementary dietary correction. In the event of obesity, a sensible regimen of feeding, qualitatively and quantitatively, should be planned. If there is malnutrition, cautious forced feeding is indicated. In any event, medication alone should not be depended upon for a correction of avoirdupois.

The increase in basal metabolic rate should not be permitted to exceed plus 20 per cent in the average case. In the event of overstepping the limits of the clinical evidence of therapeutic hyperthyroidism, thyroid administration is discontinued until the symptoms are definitely reduced and untoward signs have disappeared. Then the drug may be resumed in smaller doses to a more acceptable maximum. In the majority of patients a respite from treatment over a period of from several days to a week once a month or oftener may be required in the interests of safe and satisfactory progress.

Though in many cases the results of therapeutic hyperthyroidism appear permanent even after treatment has been discontinued for months or a year or two, in others a resumption of treatment may be required from time to time. In con-

—Concluded on page 93

Cancer

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EXECUTIVE SECRETARY, NEW YORK STATE COMMITTEE
OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

LAST year (1) we reported fifty-six patients treated for cancer in the Rochester Hospitals who were living without recurrence for ten, eleven and twelve years:

Breast, 15; Cecum, 2; Cervical lymph-nodes, 2; Cervix, 8; Ileum, 2; Intestine, 1; Kidney, 1; Lip, 3; Ovary, 2; Penis, 1; Prostate, 1; Sarcomata, 3; Sigmoid, 3; Stomach, 4; Testicle, 3; Urethra, 1; Uterus, 4.

By an error, the case of cancer of the penis and the case of cancer of the prostate were reported as ten year survivals when they should have been on the five year list. And we are able to add two cases: one of cancer of the skin of the thigh and one of cancer of the cervix from Genesee Hospital, treated in 1924 by Dr. Roland C. Harris and Dr. Shirley R. Snow, Sr., respectively. Both of these patients have survived fourteen years.

Three patients with cancer of the

1. Medical Times and Long Island Medical Journal, 66-192 (April) 1938.

Reported at the Fourteenth Annual Meeting of the New York State Committee of the American Society for the Control of Cancer, held in Rochester, N. Y., December 13, 1938.

MEDICAL TIMES, FEBRUARY, 1939

breast, reported lost last year, have been taken up this year, having again reported to their physicians.

Of the cases of cancer of the breast, one has been lost and one has died of chronic cardiorenal disease. The others are living without recurrence. One of these has had an enucleation of the left eyeball for acute glaucoma and a cataract extraction from the other eye.

One of the patients with cancer of the cervix has been lost. The others are living without recurrence; but one has a vesicovaginal fistula.

One of the patients with gastrointestinal carcinoma has been lost. The others are living without recurrence. Particular notice

should be taken of the four cases of carcinoma of the stomach.

Two of the patients with cancer of the testicle are living without recurrence; one has been lost, as has also the patient with cancer of the urethra. Of the patients with miscellaneous cancers all are living without recurrence: One case of cancer of the kidney; two cases of cancer of the cervical lymphnodes, three cases of cancer of the lip, three sarcomata.

SURVIVALS FOR TEN YEARS OR MORE OF PATIENTS TREATED FOR CANCER IN THE HOSPITALS OF ROCHESTER, N. Y.

Both patients with cancer of the ovary and the four patients with cancer of the uterus are living without recurrence.

The record today (December 13, 1938) is: Breast 16; cervix, 9; gastrointestinal tract, 11; male genito-urinary tract, 2; miscellaneous malignancies, 10; ovary, 2; uterus, 4; total 54.

In 1933 we reported twenty-two five year survivals of cases of cancer (2). We have added one from the 1935 group, a patient who was treated in 1928 for carcinoma of the cecum.

NINE cases of cancer of the breast, one case of cancer of the cervix, one case of cancer of the sigmoid, one case of cancer of the ovary, seven cases of cancer of the body of the uterus, one case of cancer of the adrenal, one case of sarcoma of the spleen, and one case of cancer of the skin of the thigh.

One of the cases of cancer of the breast has been lost; one died of late recurrence during the sixth year, and one of the patients had the remaining breast removed for a tumor of undetermined char-

acter in another city. One of the patients with cancer of the body of the uterus died of diabetes and atherosclerotic heart disease in the sixth year. A patient with cancer of the sigmoid committed suicide during the sixth year. The patient with cancer of the adrenal had a recurrence and a second surgical removal; and the patient with sarcoma of the spleen was found to have a recurrence during the tenth year. The patient with cancer of the skin of the thigh died of chronic alcoholism during the seventh year.

So at the end of ten years seven cases of cancer of the breast, one case of cancer of the cervix, one case of cancer of the ovary, and six cases of cancer of the body of the uterus are living without recurrence (68.18 per cent). Two patients are living with recurrence. One patient died of late recurrence, and three patients died of other causes. The patient transferred to this group, a case of cancer of the cecum, is living without recurrence.

These cases, added to the list of ten year survivals reported in 1937, brings the total number of ten year survivals up to seventy-three.

² Medical Times and Long Island Medical Journal, 62:192 (March) 1934.

TEN YEAR SURVIVALS—TREATED IN 1928 Reported Five Year Survivals in 1933

Genesee Hospital:

1. Carcinoma of the Uterus Surgeon Sumner

Park Avenue Hospital:

1. Carcinoma of the Breast Hennington
2. Carcinoma of the Breast Van Alstyne
3. Carcinoma of the Breast Sutter-Ward

Rochester General Hospital:

1. Carcinoma of the Breast Costello

2. Carcinoma of the Breast Stewart
3. Carcinoma of the Breast Prince
4. Carcinoma of the Breast Prince

St. Mary's Hospital:

1. Carcinoma of the Cervix Lenhart

Strong Memorial Hospital:

1. Carcinoma of the Uterus Ritchie
2. Carcinoma of the Uterus Ritchie
3. Carcinoma of the Uterus Ritchie
4. Carcinoma of the Uterus Wilson
5. Carcinoma of the Uterus Wilson
6. Embryoma of the Ovary Wilson

ALCOHOLIC HEPATOSIS AND CIRRHOSIS

RECENT observations have shown that the symptoms of "the morning after the night before" are the result of an acute hepatitis accompanied by signs of hepatic insufficiency, which disappear completely within a few days. Habitual over-indulgence leads to a chronic alcoholic hepatitis, which is still capable of complete resolution even if it has been present for many months. It is only when it has continued without intermission for years that irreparable damage is done, but the nodular hyperplasia caused by new-formed liver tissue may even then compensate for this more or less completely, whilst areas of complete necrosis are gradually replaced by fibrous tissue, the first stage of cirrhosis having at last developed.

Arthur Hurst, M.D., in *Practitioner*, June, 1938

SPECIAL ARTICLE

CLINICOPATHOLOGIC CONFERENCES OF THE LONG ISLAND COLLEGE OF MEDICINE

CASE III—The problem of diagnosis of intra-abdominal masses is often more difficult than in the following case, which is presented rather for its familiar than for its unusual features.

Clinical Report

A FORTY-FOUR year old Irish housewife was admitted to the Long Island Hospital on July 7, 1938 because of gradual weight loss and susceptibility to fatigue for nearly two years and dull epigastric pain of about a year's duration.

In September 1936, twenty-two months before admission, the patient's oldest daughter had died. To the mental depression resulting from this severe shock was attributed anorexia and the loss of 37 pounds in weight during the period between the daughter's death and the patient's admission to the hospital. Weakness and proneness to fatigue accompanied the weight loss. In July 1937, one year prior to admission, dull intermittent mid-epigastric pain appeared without relation to ingestion of food. After eating she began to experience distention and occasionally regurgitated food or sour material. Since March 1938 she has been vomiting from time to time and she has complained of a 'heavy feeling' in her stomach after eating. On three occasions in March 1938 she observed bright blood in her stools, but she never noted tarry stools. The intermittent dull pain slowly became more frequent and more severe. Six weeks be-

Clinicopathologic conference held at the Hoagland Laboratory September 8, 1938. Clinical presentation by Dr. Tasker Howard, Professor of Medicine. Anatomical diagnosis by Dr. Jean Oliver, Professor of Pathology.

fore entry the patient first noted a mass in the epigastrium. Since first finding it she has noted no change in size. Because her weight had fallen from 139 pounds in September 1936 to 102 pounds in July 1938, and because of progressive weakness, the patient came to the Polhemus Clinic and was

advised to enter the Long Island College Hospital for further study.

There was no family history of tuberculosis, heart disease, or cancer.

Admission Findings

T. 99.4 P. 80 R. 20 BP. 150/84

The patient was markedly emaciated but in no obvious distress. There was no cyanosis nor icterus. There was loss of subcutaneous fat. Pupils were equal and reacted normally to light and accommodation. Fundi were not unusual. The heart was found to be of normal size, the PMI 9 cm. left of the mid-sternal line in the 5th intercostal space. Rhythm was regular, the sounds were of good quality and there were no murmurs. A₂ was greater than P₂. The lungs were clear throughout. The abdomen was soft. There was a visible mass in the mid-epigastrium which moved downward with inspiration. On palpation this mass was hard and nodular. At the costal margin the mass reached from the parasternal line on the right to the mid-clavicular line on the left and extended downward nearly to the level of the umbilicus. The spleen could not be felt.

There was no distention of the veins of the abdominal wall, but varicose veins were present in the legs. The reflexes were normal. Pelvic and rectal examinations were omitted because the patient was menstruating when first seen. The admission diagnosis was carcinoma of the stomach.

Laboratory Data

BLOOD count: Hgb. 40% (Sahli); RBC 3.2 millions; WBC 9,300 with normal differential. Urinalysis: Sp. gr. 1.020; negative for albumin and sugar; microscopic examination negative. Stool: Soft, formed, negative for gross and occult blood. Wassermann and Kahn: negative. Gastric analysis: Free acid absent from the fasting specimen but present after histamine. The presence of gross blood in all specimens was attributed to difficulty in passing the tube.

X-rays of the Gastro-Intestinal Tract:

FLUOROSCOPY on July 13th showed the whole stomach displaced to the right. Films were interpreted as follows:

"Films at 15 min: There is a left upper quadrant paravertebral mass displacing the stomach laterally and slightly anteriorly. This mass measures roughly five inches in its superior-inferior direction and three inches in the transverse direction. Its margins are smooth and distinct, appearance suggesting a cyst formation. There is no evidence of intrinsic gastric defect. Duodenal bulb is normal in outline. A little more than the usual amount of emptying has taken place.

"At 6 hours: Stomach has emptied completely. Head of the meal is in the proximal transverse colon. Latter portions in the lower ileum. Terminal ileum, cecum and ascending colon appear normal.

"At 24 hours: Ascending colon and cecum have emptied. The rest of the colon is well filled. No gross defects.

"At 48 hours: Small amounts of barium are scattered in the colon from the hepatic flexure onwards. The splenic flexure appears normal in position. The hepatic flexure, however, is lower than usual. The psoas shadows are intact on

both sides. There is increased density in the liver area and the liver appears to be slightly enlarged. The lower poles of both kidneys are noted. They appear to be slightly enlarged but are equal in size. The left kidney appears displaced downwards.

"*Conclusions:* Abdominal mass associated with stomach displacement and with displacement of the left kidney, as described. This is apparently not retroperitoneal hepatomegaly."

Course in Hospital

THE patient's general condition improved with a well balanced diet and three 500 cc. blood transfusions. A complement fixation test for echinococcus antibody was reported negative on July 29th. On August 1st an exploratory laparotomy was done under cyclopropane anesthesia because the mass appeared to lie outside the stomach by x-ray. Twenty-four hours after operation the temperature rose to 104° and remained elevated. The respirations increased to 35, the pulse to 120. Examination on August 3rd showed a patch of bronchovesicular breath sounds with a few moist râles in the 2nd and 3rd intercostal space on the left anteriorly. Percussion and palpation at this time gave normal findings. A bedside film made August 3rd was read as follows: "Both lung fields show scattered areas of non-aeration particularly in the medial portion of the right lung and throughout the major portion of the left lung. There is no pleural fluid present. Conclusions: Changes present may be those of a patchy atelectasis or more probably pneumonia." The following day the patient showed signs of pulmonary edema and was given morphine, atropine, and oxygen. Twelve hours later, at 8:05 P.M., August 4th, she died in congestive heart failure.

Clinical Diagnosis

PROGRESSIVE loss of weight with anemia and weakness in a patient of 44 who presented a hard, nodular, intra-abdominal mass obviously suggested malignant neoplastic disease. There was, however, wide difference of opinion as to what organs were primarily and second-

arily involved, for the operative findings were of course not incorporated in the protocol.

The history suggested a primary neoplasm of the gastro-intestinal tract, probably carcinoma of the stomach. The mass was thought to represent the primary tumor rather than secondary metastases to the liver. The results of gastric analysis were not regarded as clearly indicative of a malignant ulceration of the stomach. Specific information was wanting with regard to enlargement of Virchow's gland or to the presence of a rectal shelf and the protocol contained the report of only one examination of stool for the presence of blood.

X-RAYS of the gastro-intestinal tract apparently showed the intra-abdominal mass outside the stomach, displacing that organ laterally and depressing

Fig. 1

Film taken 15 minutes after opaque meal to show mass displacing stomach laterally.



the left kidney. This interpretation led to much speculation. Carcinoma of the pancreas was thought of. It was suggested that the epigastric mass represented a carcinoma of the head of the pancreas, but absence of jaundice despite the large size of the mass and the fact that the mass moved with inspiration effectively ruled this out. Carcinoma of the tail of the pancreas was considered possible, however, because one of the staff members had known of two instances of carcinoma of the tail of the pancreas in which respiratory movement of the tumor mass had been due to adhesion of the tumor to the left crus of the diaphragm. There was no evidence of a colonic neoplasm. Hypernephroma might displace the stomach and kidney in the manner described. There was no other evidence in support of this diagnosis but because of the evidence offered against the other suggested diagnoses, the diagnosis of hypernephroma of the left kidney was favored by a majority of the staff as the most likely one from the data available.

Pathological Report

ON opening the abdomen the viscera were found in their normal relations. Beneath the surgical incision were extensive recent adhesions which bound together the liver, stomach, omentum and duodenum. Separating these a hard white tumor mass, roughly oval in shape and measuring 6 cm. in longest diameter, was found in the region of the tail of the pancreas. On section the tumor was found to have invaded the pancreas as far as the pars media, the body and head of the organ being of normal shape and appearance. The tumor was firmly attached to the greater curvature of the stomach, a definite

line of cleavage being apparent except over an area of 1 cm. in diameter where the tumor passed into the stomach by a mass of continuous invading tissue.

On opening the stomach its mucosa appeared normal except at the point of attachment of the tumor just described. Here there was a fungoid partially ulcerated mass 4 cm. in diameter that projected above the level of the mucosal surface.

The lymph glands around these regions were filled with white tumor tissue and in the liver seven nodules, averaging about 6 cm. in diameter, were found.

All the other viscera were essentially normal. Histological sections showed that the tumor had its origin in the mucosa of the stomach and that it had invaded the tail of the pancreas by extension. The greater bulk of the tumor therefore lay outside the stomach and pressed upon it laterally, as the fluoroscopy had suggested.

Discussion

IN this case, the correct diagnosis (carcinoma of the stomach) had been made by the intern on admission. The final hospital diagnosis based on all the data which could be assembled, including a diagnostic laparotomy, was carcinoma of the pancreas with metastasis to the liver. A majority of the medical staff, at the conference, using all the data except the operative findings, had agreed on a

diagnosis of hypernephroma. In retrospect it seems that the most reliable evidence in this case was the patient's history and the impression conveyed by the patient's general condition at the time of entry into hospital. These were entirely characteristic of gastric carcinoma, whereas the operative and x-ray findings were much less so.

In review, the clinical data were incomplete without the report of a rectal examination, which is of prime importance in a patient suspected of having an intra-abdominal neoplasm, particularly carcinoma of the stomach. Examination of a single stool specimen in cases of suspected carcinoma of the gastro-intestinal tract has almost no significance. Subsequent gastric analyses might have resolved the doubt expressed as to the origin of the blood present in the specimens examined. The constant presence of blood in these later specimens and a determination of gastric function by Bloomfield's method might have confirmed the admission impression; as it was, the results of gastric analysis were largely discounted.

Conclusions

1. Carcinoma of the stomach may simulate an extragastric tumor.
2. The diagnosis of carcinoma of the stomach, when supported by the patient's story and by the physical findings, should not be abandoned unless another diagnosis can be proved.

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Holman, Cranston: The Diagnosis of Gastric Carcinoma and Peptic Ulcer, *J.A.M.A.* 108:1383, 1937.



SODIUM ISOAMYL ETHYL THIO-BARBITURATE

FURTHER laboratory and clinical investigations of the action of this and other barbiturates is required before accurate evaluation is possible. It is recommended that this drug be made no exception to the rule that intravenous barbiturates should be employed with due caution until the anesthetist is perfectly familiar with its action and the effects in humans are more thoroughly investigated.

C. L. Burstein, M.D. and E.H. Rovenstine, M.D., In *Anesthesia and Analgesia*, July-August, 1938.

Contemporary Progress

Use of Estrogenic Substances In Atrophic Rhinitis

I. H. BLAISDELL (*Laryngoscope*, 48:699, Oct. 1938) reports the treatment of 60 cases of atrophic rhinitis with estrin used as a nasal spray. The estrin preparation employed contains 10,000 units per c.c. and 1 c.c. is sprayed into each nostril each week. The patient is also given an estrin in oil spray for daily use at home. Estrin was employed in atrophic rhinitis because of its effectiveness in atrophic vaginitis, and the pathological similarity between the two conditions. In the 60 cases treated, the symptoms began before the age of twenty years in 44 cases, and after the age of twenty in 16 cases. The latter group may be classed as "secondary atrophic rhinitis." Of the 44 cases in the first group, all but 6 have shown definite improvement varying in degree, but characterized by the complete disappearance or definite diminution in the crusts and odor. In the second group all 16 patients showed some degree of improvement. Patients who had symptoms for only a few years responded better than those with a longer duration of the disease; females showed a somewhat more rapid response than males. Estrin does not cure atrophic rhinitis, but symptoms can be controlled in most instances as long as it is used.

COMMENT

We have heard good reports from the use of estrogenic substances in atrophic rhinitis. But the author has struck the nail on the head when he says, "Estrin does not cure atrophic rhinitis but symptoms can be controlled in most instances as long as it is used." The same can be said for the employment of many other remedies in this condition—repeated washings, scarlet red,

radium, etc. Finally, estrin is rather expensive and beyond the reach of the average patient.
H.H.

Dietary Treatment of Chronic Sinusitis

B. R. SHURLY (*American Journal of Surgery*, 42:174, Oct. 1938) maintains that when "pocketed pus" is present in nasal sinus disease surgery must come first for the establishment of drainage.

But other therapeutic measures are of value to build up the patient's local and general resistance, and dietetic treatment is a therapeutic aid in this connection. Most important is an adequate supply of the mineral salts. Vitamin A increases resistance to infection and the vitality of the tissues, especially in the nose, throat and ear. Vitamin C, as a preventive of scurvy, has a special influence on the mucous membranes of the gums, nose and mouth. The value of the mineral salts lies chiefly "in promoting cell growth and selection." The author has found cod liver oil of special value in the "nourishment, stability and health of the tissues of the ear, nose and throat." Special dietetic treatment and cod liver oil have been found useful at the time of removal of the tonsils and adenoids, to prevent sinus infection. As some of the manifestations of sinusitis are allergic in nature, the question of food allergy must be considered in planning the diet in sinus disease, and foods to which the patient is sensitive eliminated. The author suggests also that "the proper use of vitamin D" in infancy "may offer much in preventing bony malformations of the nose and sinuses", which in later life predispose to sinus infection.

COMMENT

We have always insisted that recurrent infections of the nose and throat with possible

+ Rhinology +

involvement of the nasal sinuses are greatly dependent upon the physical resistance of the patient. Diet, in itself, properly regulated with the addition of vitamins and mineral salts, is an invaluable aid in keeping the patient healthy. But there are many other factors which enter into the picture. For example, it is a well known fact that there are few serious upper respiratory infections in the summer time when people stay out of doors, take more physical exercise, and do not subject themselves to the dry air of overheated apartments and office buildings, to say nothing of subjection to vagaries in temperature and so on. It is our custom to take care of such conditions locally, but there is no doubt that the patient will avoid further trouble by attending to the diet and the intake of proper vitamins. We agree with Dr. Shurly that one should be on the lookout for a specific allergy. We have known that tea, coffee, chocolate and various other foods may be the cause of a continued irritation to the nasal mucosa.

H.H.

Meningitis from the Sphenoid Sinus

R. W. TEED (*Archives of Otolaryngology*, 28:589, Oct. 1938) reports 4 cases of meningitis from the sphenoid sinus, and presents a review of the literature from which reports of 129 other cases were collected. A study of statistical reports shows that while the sphenoid sinus is involved in about 15 per cent. of clinical cases of sinusitis and in 33 per cent. of pathological cases, it is responsible for approximately 35 per cent. of intracranial complications of rhinogenous origin. In the 129 cases of meningitis from the sphenoid sinus collected from the literature, there were 20 cases in which there was a concomitant otitis and 47 cases in which there was

purulent thrombosis of the cavernous sinus either alone or with thrombosis of the communicating venous spaces of the head. In the author's 4 cases, 2 showed purulent thrombosis of the cavernous sinus, and in one of these the superior longitudinal, left lateral and sigmoid sinuses also showed purulent thrombosis. From his study of the method of spread of the infection from the sphenoid sinus to the meninges, the author concludes that this is "predominantly vascular",

and that it is aided by the close anatomic relation of the vascular marrow spaces of the sphenoid bone to the infected mucosa of the sinus. In 3 of the author's 4 cases a glycosuria was noted which had not been present prior to the sphenoid sinus infection; only 2 similar cases are reported in literature. In one of the author's cases, autopsy showed the pituitary gland "almost completely destroyed by the inflammatory process." It is conceivable that the glycosuria

may be due either to the involvement of the pituitary gland or to involvement of the floor of the third ventricle by the meningitis. In none of the cases reported by the author was surgical treatment attempted, but in the literature he found reports of 6 cases in which recovery followed operation on the sphenoid sinus; in a note at the close of the article he refers to an additional case of recovery following operation recently reported by Shambaugh (*J. A. M. A.*, 108:696, 1937). He expresses the hope that "the future management of these cases of serious involvement will be more radical and successful."

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Medicine and Social Hygiene

COMMENT

The investigation of the sphenoid sinus in all patients complaining of deep-seated boring headaches, particularly referred to the occipital region, is most important. That a meningitis may occur as a result of the infection of this sinus is apparent. It may be possible that the infection spreads through the minute blood vessels, causing a purulent thrombus which may affect the cavernous sinus. However, a more direct avenue of infection is evident on autopsy in certain cases—the breaking down of the internal wall of the sinus, the wall which separates it from the meninges. Sometimes a latent brain abscess develops first. In one of our cases, in which a purulent sphenoid sinus infection was evident, gentle probing of the sinus was disastrous. The probe broke through the dura and meningitis developed with a resultant death in a few days.

H.H.

Pneumatization of the Frontal Sinus In Atrophic Rhinitis and Ozena

H. BARTH (*Zeitschrift für Hals-Nasen-und Ohrenheilkunde*, 44:135, Nov. 17, 1938) notes that the opinion has often been expressed that incomplete development of the frontal sinus is associated with atrophic rhinitis and ozena. In a careful roentgenological examination of the frontal sinus in 49 patients with ozena and 32 patients with atrophic rhinitis in comparison with 300 normal controls, the percentage of cases showing deficiency or absence of pneumatization of the frontal sinus was but little greater in the cases of atrophic rhinitis and ozena. Even in cases in which symptoms had begun in early life, failure of pneumatization of the sinus was not characteristic. These findings, therefore, indicate no definite relation between the development of the frontal sinus and true atrophic rhinitis.

COMMENT

This paper brings out a negative finding and adds nothing to our knowledge. If the frontal sinuses appear small, not pneumatized, in atrophic rhinitis, no doubt bone changes have taken place similar to those in a sclerosed mastoid after a chronic infection.

H.H.

Lingual Tonsillitis

H. LIGGETT (*Laryngoscope*, 48:822, Nov. 1938) notes that very little atten-

tion is paid to the lingual tonsil or the possibility of lingual tonsillitis in medical literature. In cases with symptoms of throat irritation and chronic persistent cough of a dry, harsh character, special examination of the region behind the tongue should be made with the laryngeal mirror. This will often show the lingual tonsil enlarged and inflamed, sometimes with pus discharging from the follicles. Lingual tonsillitis usually develops in patients that have had a tonsillectomy done. In acute inflammation of the lingual tonsil, medical treatment will give relief; the topical application of silver nitrate (20 to 30 per cent.) is very effective. Any astringent medication is of benefit; and caustics, such as trichloroacetic acid, may also be used. In chronic inflammation or recurrent acute attacks, surgical removal of the lingual tonsil is indicated. For this purpose the author uses a guillotine type of lingual tonsillotome designed by Myles. The operation is done by indirect laryngoscopy under local anesthesia. Bleeding is "negligible", and the patient experiences very little discomfort after operation. The author has performed this operation in 50 cases. Nine illustrative cases are reported showing the complete relief from symptoms obtained; in one of these the lingual tonsils were a focus of infection causing arthritis. Within a month after operation, the patient was entirely free from joint symptoms as well as from throat symptoms.

COMMENT

No careful laryngologist will fail to inspect the base of the tongue to discover a lingual tonsil. Frequently these growths are directly contiguous with tonsillar tissue and can be easily removed with forceps and scalpel. One must keep in mind that an overgrowth of tissue in this region may be due to a congenital thyroglossal duct. Of course there are various means of removing this tissue. When these lymphatic masses are large, a surgical removal is simple, but should be performed only under local anesthesia as cases are known of the development of a lung abscess from inspiration of some of the tissue. Silver nitrate 50 per cent or trichloroacetic acid may be applied but such cauterants seldom reach far enough. The diathermic cautery knife accomplishes this result much better.

H.H.

Malignant Neoplasms of the Larynx

WILLIAM HARRIS and PAUL KLEMPERER (*Archives of Otolaryngology*, 28:355, Sept. 1938) have used radiotherapy according to the principles of Coutard in 32 cases of laryngeal carcinoma. The total dosage varied from 1,500 to 4,000 r to each lateral field and 1,000 to 2,000 r to each anterior field, if an anterior field was employed. When an anterior field was used, the dose to the lateral fields was reduced. Treatments were given daily, except Sundays, for thirty to forty days, the daily dose varying from 200 to 400 r, measured in air. Twenty of the 32 patients thus treated responded favorably; 7 of these have been followed for more than five years, 8 for more than two years and five for one year; in 12 cases there was no definite improvement under treatment. The authors have found that if there is a recurrence of carcinoma of the larynx after radiotherapy, it occurs most frequently under one year. Histological study was made of biopsy material in these 32 cases to determine if there were any criteria for the pathologic differentiation of radiosensitive and radioresistant growths. Grade of cellular differentiation, mitotic count, inflammatory reaction in the stroma, and location of the neoplasm were carefully considered in relation to the therapeutic results. But no evidence was found that any of these factors was of importance for determining the radiosensitivity of the laryngeal growth and the effect of roentgen therapy.

COMMENT

When one discovers a suspicious growth in the larynx it is imperative that proper treatment be instituted immediately while it is still intrinsic. Unfortunately, the removal of a small portion of the growth for biopsy will tend toward a more rapid development if it is malignant. It is preferable in most cases to begin x-ray and radium treatment as soon as possible. If there is little diminution in the size of the tumor within a short time, surgical measures should be resorted to without delay. Wonderful results have been obtained by laryngofissure and the removal of the growth and vocal cords under direct vision. The authors of this paper are of such high repute that we do not doubt their findings. Unfortunately, other men using

these methods deluded us into false hopes until the malignancy had spread so far that nothing could save the patient from endless misery.

H.H.



Otology



Diagnosis and Differential Diagnosis of Deafness

S. J. CROWE (*Archives of Otolaryngology*, 28:663, Nov. 1938) discusses the diagnosis of different types of deafness based on the findings of the Otological Research Laboratory of Johns Hopkins Hospital. He notes first the changes in hearing that result from age; the audiograms of 693 persons with hearing normal for their age show that "with each decade the hearing for the high frequencies becomes more and more impaired." Another finding is noted as important—that during the early stages of obstruction of the eustachian tube in children due to "an overgrowth of lymphoid tissue around its pharyngeal orifice", the hearing is more impaired for high than for low tones. If this condition is not recognized and properly treated, the impairment of hearing progresses toward the low end of the scale until the patient becomes noticeably deaf; at this stage the damage in the middle ear is often permanent. Correlations between functional tests and pathological findings in a number of cases show that any lesion interfering with the movements of the ossicles diminishes hearing. If only the malleus and incus are involved, the impairment of hearing usually begins with loss of perception for the higher frequencies. But when the stapes is involved, as in otosclerosis, hearing for the low as well as the high tones is impaired. Studies on inner ear deafness have demonstrated the localization in the cochlea for 2048 double vibrations and higher frequencies but not for frequencies below 2048. It has also been found that, if the eustachian tube and the middle ear are normal, and the audiogram shows good hearing for low tones, with impairment of hearing beginning at 256 or 512 and increasing

gradually toward the high end of the scale, the lesion is atrophy of the cochlear nerve in the basal turn of the cochlea without involvement of the organ of Corti. But when middle ear and eustachian tube are normal, and the audiogram shows an abrupt or sharply localized impairment for high tones, both the nerve and the organ of Corti in the basal turn of the cochlea are atrophic. The author has found that a differential diagnosis of the various types of deafness cannot be made with the audiometer alone; it must always be supplemented by tuning fork tests; masking is also important in making hearing tests.

COMMENT

The reading of this paper upsets all our ideas about the relationship of obstructive and perceptive deafness to pathological lesions in the middle and internal ear. That the situation is complex goes without saying. We are confronted with the statement that with each decade the hearing for the high frequencies becomes less. We do not believe that this is due entirely to increased disease processes. As the deafened patient grows older, there is a lowering of perception in all his nerves and the threshold of auditory fatigue becomes less. In other words, there is a definite "nerve tire." At last we have found someone who agrees with us that any lesion which interferes with the movement of the ossicles diminishes the hearing.

Scientific investigation of the causes of deafness has made great strides during the past ten years but, unfortunately, remedial measures have not kept pace. Patients who are hard of hearing want their deafness relieved if possible and much can be done if the otologist will make a thorough examination and eliminate many causative factors. We do not believe that the auditory nerve nor the internal ear alone is involved in a majority of cases. The lesions in the middle ear are causing most of the trouble. Again we state, as we so often have before, that ordinary inflation through a eustachian catheter is useless. But correcting pathologies around the mouth of the eustachian tube and in the tube itself will often give astonishing results.

H.H.

The Pathology of Impaired Hearing For Low Tones

D. ODA (*Laryngoscope* 48:765, Nov. 1938) reports a histologic study of 35

ears from 19 patients in whom hearing tests had shown impaired hearing for both low and high tones with positive Rinne. Three types of audiograms were distinguished. The first type showed an abrupt loss of hearing acuity for tones above 1,024 or 2,048 d.v. There were 14 ears belonging to this group, and 13 of these showed atrophy of the organ of Corti which was more extensive than that observed in the group with the same type of loss of hearing for high tones only, studied by Crowe, Guild and Polvogt. The difference was most marked in the more extensive lesions in the upper basal turn of the cochlea in the author's series, which suggests that this portion of the cochlea has some part in the hearing of low tones. Five of these 13 ears also showed definite middle-ear lesions. In one of these 14 ears there was no cochlear or middle-ear lesion sufficient to account for the loss of hearing. The second type of audiogram showed a gradual decline in thresholds, beginning with the low tones, for the successively higher tones. Six of the 15 ears in this group showed extensive nerve atrophy in all turns of the cochlea—a more extensive lesion than that found by Crowe, Guild and Polvogt in cases of this type without loss of hearing for low tones. In 2 ears of this group there was partial atrophy of the nerve in the lower basal turn of the cochlea only; one of the ears also showed a definite middle ear lesion. Four ears showed atrophy of both the nerve and the end-organ in the lower basal turn of the cochlea only, no middle-ear lesion. Three ears showed only minor lesions. The third type of audiogram showed about the same degree of impairment of hearing for all tones—the "horizontal" type. Four of the 6 ears in this group showed definite middle-ear lesions, and 2 of these some nerve atrophy in the lower basal turn of the cochlea. The findings in this series do not indicate a definite localization for the perception of the lower tones; middle-ear lesions are definitely more prominent in these cases than in cases with impaired hearing for high tones only.

COMMENT

In this article again we find that in many of the cases examined, middle ear lesions were found. We feel that the organ of Corti

may have a great deal to do with hearing acuity but these pathological lesions in themselves do not account for all the trouble. In hearing we have a definite mechanism which has to function properly.

H.H.

Suppuration of the Petrous Pyramid

R. L. MOORHEAD and J. P. BAKER (*Archives of Otolaryngology*, 28:497, Oct. 1938) report 30 cases of suppuration of the petrous pyramid in which operation was done and pus found in the pyramid. All but 3 of these patients had a mastoid operation from a week to several months previously; in 4 cases the petrosal infection resulted from reinfection of a healed mastoid. One of the 30 patients had no pain; in the other cases there was pain in or around the eye on the same side as the ear lesion except in one case in which it occurred on the opposite side. The latter symptom is "an oddity" which the authors are unable to explain. Four patients had pain in the teeth; 14 had some degree of paralysis of the external rectus muscle; and 6 had transient and usually incomplete facial paralysis. In cases in which symptoms of petrosal suppuration develop before a mastoidectomy has been done, the authors consider that the simple mastoid operation should be done and "the result of this awaited", unless there are symptoms of meningeal irritation or other severe symptoms. If a mastoidectomy has been done recently and the pain indicative of petrosal suppuration is not increasing in severity, immediate operation on the petrous pyramid is not indicated, but the patient should be kept under close observation. If pain and signs of a low grade sepsis with possibly paralysis of the sixth nerve develop at a later period after mastoidectomy, and if there are no signs of improvement in a few days, operation on the pyramid is indicated. The operation employed by the authors is a modification of Eagleton's operation of unlocking the petrous pyramid. If the mastoid operation has not been done previously, exenteration of the mastoid area is the first procedure. The mastoid incision is extended upward for about two inches and backward from the lower end for about one inch. The dura of both the

middle and the posterior fossa is exposed, and the bone between these two openings removed; thus the bone over the sinus and the solid angle between the posterior and middle fossa is removed, and the solid angle is removed completely down to the labyrinth. The intracranial pressure is reduced by lumbar puncture (if the spinal fluid cell count is normal) or by cisternal puncture or tapping of the ventricles. When the level of the labyrinth is reached, a careful search is made for cellular tracts, and if a tract leading into the pyramid is found, it is drained and, if necessary, uncapped by removing bone separating it from the middle fossa. The dura of the middle fossa is elevated to expose the anterior surface of the pyramid; if pus is not found during this procedure, the cortex of the bone is opened with a curet; sometimes pus must be searched for "either inward or backward." The pyramid is drained "by a strip or two of rubber dam" and the wound left open. Of the 30 cases operated by this method, 20 recovered, and a considerable percentage have serviceable hearing in the operated ear. Of the 10 fatal cases, 8 were operated "in the face of fulminating meningitis." The authors consider the operative procedure employed to be "entirely safe and practical."



COMMENT

We have repeatedly stated that too much attention has been devoted to the petrous pyramid and its elimination by surgical measures. That there is such a condition, no one doubts—that we have known of these infections for years, no one doubts either. The trouble is that Nature is not allowed to do its part. We ourselves do not see as many infections of this deep part of the mastoid as we did ten years ago. Perhaps that is because infections of the mastoid bone are discovered more rapidly and operated upon sooner.

H.H.

Results of Ten Years of Radium Therapy in Cancer of the Cervix

W. P. PLATE (*Gynécologie et Obstétrique*, 38:280, Oct. 1938) reports the results of ten years' treatment of carcinoma of the cervix, from 1923 to 1933, at the University of Amsterdam, Holland. Of the 282 patients treated in this time, only 16 could not be traced. The method of Regaud has been employed—the dosage depending upon the extent of the tumor and its histological type; a larger dosage is given for adenocarcinoma than for other types. If the parametrium is not involved or only slightly involved, radium alone is employed; if the parametrium and other structures are involved, a series of Roentgen-ray treatments are given. The cases are classified into four groups, according to the extent of the involvement; in Group 1, the growth is confined to the cervix and the uterus is mobile; in Group 2, there is some extension to one or both lateral culdesacs or the parametrium with some diminution of the mobility of the uterus; these two groups represent the operable cases. Groups 3 and 4 include cases with more extensive involvement of the parametrium or vagina, Group 4 including those with metastases outside the pelvis. In the entire series, there were 101 five-year cures, 35.8 per cent. The best results were obtained in Group 1, with 48 five-year cures in 84 cases, or 57.1 per cent; group 2 showed 32.3 per cent. cures, and group 3, 24.7 per cent. No five-year cures were obtained in Group 4. Combining Groups 1 and 2 (the operable cases), there were 78 five-year cures in 177 cases, or 44.1 per cent. There were 12 deaths during or immediately following the treatment; there were 152 deaths after the patients left the hospital; of these 104 were due to the carcinoma or to a recurrence (one recurrence in Group 1). Comparing these results with those reported by other clinics, the author considers them "satisfactory", and definitely

superior to those obtained by surgery in carcinoma of the cervix.

COMMENT

Cancer of the cervix, despite all prophylactic efforts, remains the most common cancer of the female pelvis. The diagnosis nowadays is made earlier and treatment is somewhat more satisfactory, although far from what is desirable. Whatever improvement has been accomplished, however, is due to early diagnosis, when the growth is localized, since we do not possess a "cure" for metastatic or late cancer. Operation versus irradiation is still debated, although not as universally or enthusiastically as formerly. Irradiation without operation has become an acceptable method of treatment. The results are said to be just about as good as when surgery and irradiation are employed. One who believes this is the author of the paper under discussion. His 5 year "cures" in 101 cases of a total of 282 was 35.8%. His best results, of course, were obtained in the early cases, e.g., in Group 1.—57.1%; Group 2.—32.5%; and Group 3.—24.7%. No 5 year "cures" were obtained in Group 4. If we combine Groups 1 and 2 we find there were 44.1% of 5 year "cures", which is quite satisfactory but is not so good as some of us have obtained by surgery, in properly selected cases, and irradiation (radium and x-ray). We still believe, therefore, that the combination of surgery and irradiation is superior to irradiation alone in the treatment of early cancer of the cervix.

H.B.M.

Infectious Agents Causing Leucorrhœa

H. A. POINDEXTER (*American Journal of Obstetrics and Gynecology*, 36:1052, Dec. 1938) found that in 1,975 women examined during a venereal disease campaign, 399, or 20.2 per cent., gave leucorrhœa as a chief symptom; of these 318 were in the childbearing age. Bacteriological examination of vaginal smears in these 318 cases showed gonococci in 181 or 56.9 per cent. Other organisms most frequently found were staphylococci in 84 cases (26.4 per cent.); *Trichomonas vaginalis* in 57 cases (17.9 per cent.); streptococci in 36 cases (11.3 per cent.); *Monilia albicans* in 10 cases (3.1 per cent.). It is noted that as a rule gonococci were not found in pus containing a large number of trichomonas, monilia or Döderlein bacillus. The incidence of streptococci and staphylococci was highest in women giving a

history of abortion or miscarriage within a year. In 176 cases positive for gonococci, treatment with sulfanilamide given by mouth for two weeks resulted in marked diminution of the number of positive smears and definite improvement in the symptoms. But in cases infected with trichomonas, there was very little, if any, improvement with sulfanilamide therapy. The trichomonad infections showed marked improvement under treatment by vaginal douches with acetylaminohydrorphenylarsenic acid (devegan). The author notes that "the frequency with which nongonococcal organisms appear in cases of infectious leucorrhea warrants at least an examination by microscope and culture if necessary for *Trichomonas vaginalis* and *Monilia albicans*." This is especially important if sulfanilamide is to be tried for treatment.

COMMENT

Leucorrhea is the most frequent gynecological complaint in married women. The primary cause, of course, is infection. The most common bacteria found are the gonococcus (56.9%) and/or the streptococcus (26.4%), accounting for a total of 83.3% of the cases. This being the case, sulfanilamide should be good therapy, and, according to Poindexter, it gave him excellent results. We have had a very limited experience with this drug with good results. Other common causes of leucorrhea are Trichomonas vaginalis and Monilia albicans. A differential diagnosis can easily be made and is obligatory. Many good methods of treatment are available. Remember, the secret of success in relieving the symptom leucorrhea is the correct diagnosis of the causative agent.

H.B.M.

Ovarian Dysgerminoma

G. E. SEEGAR (*Archives of Surgery*, 37:697, Nov. 1938) reports 19 cases of ovarian dysgerminoma from Johns Hopkins Hospital and tabulates 79 other cases collected from the literature. Dysgerminoma is a relatively rare tumor, less than 3 per cent. of all malignant ovarian neoplasms. It occurs chiefly in young women, usually in those under thirty years of age. It grows rapidly, forming an abdominal mass; it is an elastic, nodular growth, freely movable if benign, infiltrative if malignant. In 14

cases in the author's series, an attempt was made to distinguish benign from malignant dysgerminoma by counting the number of mitotic figures in 40 successive high power fields, but the results showed no correlation between the frequency of mitotic figures and the degree of malignancy as indicated by the clinical history. Of the 19 cases in the author's series, 17 were operated; of these 6 are living five years or more, 4 are living less than five years, 4 died from metastases, 2 died from causes other than the tumor, and 2 have not been traced. In treatment, the author advocates removal of the affected ovary and tube, leaving the uterus and opposite ovary intact. One of his patients has given birth to a healthy child since operation; and 5 similar cases are reported in the literature. There are only 2 cases recorded in which there was a recurrence of the tumor in the opposite ovary. Where surgical removal of the mass is impossible, roentgen therapy should be employed.

COMMENT

It has always been questionable to me whether the surgeon is acting in the best interests of his patient when he deliberately conserves an ovary or part of this organ in the presence of potential malignancy. Dysgerminomas are not all malignant, that is, the pathologist makes this statement; however, if some are malignant and some are not, how is the surgeon to differentiate? But, remember these tumors occur mostly in young women and castration should not be liberally done. With all these thoughts in mind we still do not believe it is safe to conserve ovarian tissue in the presence of potential malignancy.

H.B.M.

An Exact Method of Determining Ovulation and Pregnancy

J. SAMUELS of Amsterdam, Holland (*Surgery, Gynecology and Obstetrics* 67:608, Nov. 1938) describes a method of determining the time of ovulation and of making an early diagnosis of pregnancy. This is based upon the determination of the reduction time of oxyhemoglobin by means of a special instrument known as the cycloscope, which is attached to one of the interdigital webs of the hands. This instrument is easy to use, and with practice the reduction time can

be determined with accuracy. By studying the daily changes in the reduction time in normal women "in the prime of sexual life", the author found that there was a definite increase in reduction time at the time of menstruation, followed by a decrease in the pre-ovulation period, and then another increase at the time of ovulation. The curves for normal women indicate that most women who are sexually mature ovulate twice a month—a finding confirmed at operation in some instances; and that some younger women ovulate three times. This variation in the time of reduction of oxyhemoglobin is attributed to hormonal influences. When pregnancy occurs the reduction time remains at a fairly constant level, and does not show the variations characteristic of the menstrual cycle. In many women in the early stage of pregnancy the reduction time remains at a constant level of about 165 seconds; in younger women the level may be 150 to 160 seconds. As this level becomes established very soon after fertilization, according to the author's findings, the diagnosis of pregnancy may be made before the time of the next expected menstruation, i.e., at a very early stage. This method is superior to Aschheim-Zondek or similar tests, both because it is quicker and because it is suitable for the use of any physician without a laboratory.

COMMENT

"Look and see" when ovulation takes place—and pregnancy too, if you choose—with the cycloscope. The use of this instrument is based upon the fact that every phase of the menstrual cycle is accompanied by hormonal changes, which cause changes in the time interval of the reduction of the oxyhemoglobin. These changes can be registered with the cycloscope and plotted on a graph. This instrument certainly is "a wonder" and may enlighten us as to the exact time or times of ovulation, which has never been known before. Furthermore, pregnancy can be diagnosed when only of a few days duration, thus rendering the A-Z test unnecessary. Research marches on!

H.B.M.

A Comparison of the End-Results of Treatment of Endo-Cervicitis by Electrophysical Methods

A. JACOBY (*American Journal of Obstetrics and Gynecology*, 36:656, Oct.

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1938) reports a study of the end-results of the treatment of endocervicitis by three "electrophysical methods"—cautery, coagulation, and conization. Fifty patients were treated by each method; all the 50 patients treated by cauterization were kept under prolonged observation—up to two years; only 44 in each of the other groups could be kept under observation; the others failed to report and could not be traced. A patient was considered cured "only when all symptoms had disappeared and the cervix was restored to normal." In the group treated by cauterization, the average length of time required for cure was four months; 19 patients were cured in two months. In the group treated by coagulation, the average length of time required for cure was seven months; 10 patients were cured in two months. In those treated by conization, the average length of time necessary for cure was 7.3 months; 5 patients were cured in two months. Treatment had to be repeated by the same or one of the other methods in one case originally treated by cauterization, in 5 cases originally treated by conization, and in 6 cases originally treated by coagulation. Newly formed cysts developed and were treated in 4 patients after cauterization; in 9 patients after coagulation, and in 17 patients after conization; Nabothian cysts were destroyed by the actual cautery, "regardless of which modality was originally used." No complication was noted in any case after cauterization; 6 patients developed moderate stenosis of the cervical canal after coagulation, which was promptly corrected by gradual dilatation; acute tubo-ovarian inflammation developed in 4 patients treated by coagulation and in 3 treated by conization. These findings indicate that all the three methods employed are "satisfactory for removing the diseased cervical mucosa", but that the best results with fewer complications are obtained with the cautery.

COMMENT

In the treatment of chronic endocervicitis by electrophysical methods, many physicians are in a quandary as to which of the several methods available is the best. Dr. Jacoby has answered this question and we believe fairly. After a considerable experience your commentator can agree that "cautery, coni-

zation and coagulation "are all good methods but that, in his hands, the cautery is the most satisfactory. "Experience is the best teacher" and herein lies the success of any given acceptable method. Choose such a method and perfect your technic and you will get good results. Failure more often results from faulty technic than from inferior method.

H.B.M.

A New Nonirritating Opaque Substance for Uterosalphingography

PAUL TITUS AND HIS ASSOCIATES (*American Journal of Obstetrics and Gynecology*, 36:889, Nov. 1938) have found the Rubin insufflation test satisfactory for demonstrating patency of the tubes in sterility studies. But in cases where obstruction of the tubes is found by the Rubin test, or small tumors or polyps of the uterus are suspected, further diagnostic study by means of uterosalphingography is necessary for locating the site of the obstruction or demonstrating the presence of the small new growths in the uterus. With the Hyams technique of the injection of fractional doses of the opaque medium, overdistention of the uterus and tubes is avoided, but with the use of iodized oil, untoward reactions have occurred "all too frequently", which the authors attribute chiefly to the liberation of free iodine from the solution employed. Late reactions are to be attributed to the persistence of the iodized oil in the peritoneal cavity. Recently the authors have employed mono-iodomethane sulphionate of sodium (skiodan) for uterosalphingography; this substance in aqueous solution has been much employed by urologists for both retrograde pyelography and excretion urography, the latter involving intravenous injection. The aqueous solution employed by urologists proved unsuitable for uterosalphingography because it lacked viscosity and passed through the uterine cavity and tubes too rapidly. After the trial of various substances for thickening the solution, it has been found that acacia (20 per cent.) is most satisfactory combined with skiodan (40 per cent.). Animal experiments have shown that it has no local inflammatory effect; and that it is rapidly excreted; free iodine is not released from this compound, and the acacia, added for viscosity, does not

have the "foreign body effect" of poppy seed or sesame oils. This opaque medium has been employed by the authors for uterosalphingography for nearly two years. No inflammatory reactions, either immediate or delayed, have been observed, while the x-ray pictures obtained are clearer and more distinct than with the iodized oil preparations formerly employed. X-ray pictures taken a few hours later show that the opaque medium has entirely disappeared.

COMMENT

Diagnostic precision is the order of the day—for gynecology no less than internal medicine. Uterosalphingography has become a necessary method in certain gynecological cases. The radio-opaque substances hitherto employed, however, have possessed certain inherent dangers. Lipiodol, for example, has been known to produce severe untoward pelvic symptoms. The authors recommend a "mixture" that, after two years experience, appears to be almost ideal. It accomplishes what is expected for a radio-opaque substance without any of the disadvantages of almost all of the media hitherto used in gynecology. We have had no experience with the "Titus mixture" but intend to employ it from now on in our uterosalphingography.

H.B.M.



Obstetrics



Value of the Urea Clearance Test in Pregnancy

D. B. BROWN (*Journal of Obstetrics and Gynecology of the British Empire*, 45:786, Oct. 1938) reports the use of the urea clearance test in 243 women during pregnancy and after delivery. In 41 women with normal pregnancy, the urea clearance averaged 132 to 135 per cent. at different stages of pregnancy, and was below 100 per cent. in only two instances. In 9 patients who developed toxemia after the first urea clearance test, the clearance was normal on the first test in 6 cases; but repeat tests on 5 of these 6 cases, before definite toxemic symptoms developed, showed an average clearance of 65 per cent., and a normal clearance in only one case. In cases of toxemia, the average urea clearance was lowest in the cases of chronic nephritis, averaging 58 per cent.; the average in

pre-eclamptic toxemia was 88 per cent.; and in cases that developed eclampsia 75 per cent. (one week after delivery). Of the patients with toxemia, 107 were followed up and repeated urea clearance tests made; 35 of these were well clinically with normal urea clearance one week after delivery. Fifty-eight patients showed persistently low urea clearance six to eighteen months after delivery, but most of them showed only slight, if any, evidence of renal damage. The author concludes that the urea clearance test is of value for the differential diagnosis between pre-eclamptic toxemia, chronic nephritis and essential hypertension, if the clearance value is high. Such a high clearance excludes the possibility of chronic nephritis, and if the blood pressure remains high with "little other evidence of toxemia", the case is probably one of essential hypertension. A low urea clearance value is not of value in the differential diagnosis of various types of toxemia during pregnancy; but the result of the test after delivery is of value. In most cases of pre-eclamptic toxemia, the rise in the urea clearance is rapid, while in chronic nephritis the rise is slow, and the clearance never reaches a normal level. The urea clearance test made several months after delivery is of definite value, and a low urea clearance at that time is evidence of definite renal damage, even if the clinical signs of such renal damage are very slight or absent. In the author's opinion, the persistence of a low urea clearance value after delivery is sufficient to forbid another pregnancy for at least two years, when clinical examination and urea clearance test should be repeated. If a low urea clearance is found in an apparently normal pregnant woman, "extreme watchfulness" is necessary. If the urea clearance test shows rising or stationary values during the treatment of toxemia, conservative treatment "can be continued with confidence."

COMMENT

Any test that is not too complicated and will give us an insight into the kidney function of the pregnant patient is of prime importance. Such a test is the "urea clearance test." The test, of course, is just as informative in those not pregnant. By comparison, therefore, we have a method of diagnostic as well as prognostic value. Too

many women assume the responsibilities of childbirth without knowing the real status of their health and particularly the function of their kidneys. This fact is not altogether their fault. The average physician is just about as negligent, unless there is gross evidence of impairment. "An ounce of prevention is worth a pound of cure" and therefore let us try to keep in better touch with the kidney function in all our pregnant women and thereby forestall the severe toxemias of pregnancy and their sequelae.

H.B.M.

End Results in 400 Cases of Placenta Previa

A. H. ALDRIDGE AND T. J. PARKS (*American Journal of Obstetrics and Gynecology*, 36: 859, Nov. 1938) present a study of 400 cases of placenta previa from the Woman's Hospital and the Sloane Hospital for Women, New York City. These cases represent an incidence of one case of placenta previa to 148 deliveries in the two hospitals. The classification used in this study was as follows: Marginal placenta previa, when a part of the placenta was implanted in the lower uterine segment but the edge did not extend beyond the margin of the internal os; partial placenta previa, when part of the opening of the cervix was covered by the placenta; central placenta previa, when the internal os was completely covered by the placenta. Slightly over one-half of the cases (52.8 per cent.) were of the marginal type; 19.5 per cent. partial; and 27.7 per cent. central. In the Woman's Hospital approximately 60 per cent. of both partial and central placenta previa and 44.9 per cent. of all cases were delivered by cesarean section. At Sloane Hospital only 20 per cent. of all cases and 37.3 per cent. of cases of central placenta previa were delivered by this method. In cases of vaginal delivery Vorhees' bags were used to induce labor and control hemorrhage in 52.6 per cent. In both hospitals approximately three fourths of the patients who were delivered by cesarean section showed complications that "in themselves were acceptable indications" for this method of delivery or would have seriously complicated delivery by vagina. The maternal mortality was slightly higher with cesarean section than with vaginal delivery, but the fetal mortality was "strikingly reduced" with this pro-

cedure. Maternal deaths with both methods of delivery were due chiefly to hemorrhage and shock. From an analysis of the fatal cases the authors conclude that "the outstanding fault of treatment was the failure to provide adequate replacement of blood loss." They find that blood transfusion is the most effective means for the replacement of blood loss and the prevention and treatment of shock. No patient who is in shock or "seriously depleted by hemorrhage" should be delivered either by vagina or by section "until adequate replacement of blood loss has been accomplished." Provision for blood transfusion should be made during delivery in case dangerous hemorrhage occurs. Blood transfusion is also of value in the postpartum period to combat anemia and improve the patient's general condition.

COMMENT

There is no obstetric problem that requires more astute ability in its management than placenta previa. The outcome of any case of placenta previa is dependent upon its early recognition and prompt intelligent treatment. No physician, therefore, should undertake to practice obstetrics unless he realizes that hemorrhage during pregnancy calls for an accurate diagnosis and proper treatment. Procrastination on the part of the physician has, all too often in the past, led to serious consequences that might well have been prevented. There is no expectant treatment of placenta previa. Once the diagnosis has been made, delivery should be accomplished at the earliest possible moment consistent with sound obstetric principles. Remember! any case of hemorrhage needs blood transfusion—placenta previa is certainly no exception.

H.B.M.

Toxemia of Pregnancy and the Placenta

R. A. BARTHOLOMEW AND E. D. COLVIN (*American Journal of Obstetrics and Gynecology*, 36: 909, Dec. 1938) in previous studies of the placenta in cases of toxemia of pregnancy found acute placental infarcts to be characteristic of this condition. In this article they report a study of 100 placentas without knowledge of the clinical history of the patient. In this series there were 26 cases of severe toxemia, and 24 of these were diagnosed by gross examina-

tion of the placenta from the nature of the infarcts found, a correct diagnosis of 92 per cent. The placental infarcts characteristic of the toxemia of pregnancy are sharply demarcated both grossly and microscopically; thrombosis is present in most of the villous capillaries and small arteries in the infarcted area. From their study of these placental infarcts in pregnancy toxemias, the authors concluded that the hypercholesteremia of pregnancy is "the basis for vascular changes in the placental arteries that predispose to infarction." Excessive hypercholesteremia is induced by various factors, of which hypothyroidism and a diet rich in cholesterol-containing foods are most important. In the later part of pregnancy, fetal movements are a predisposing cause of localized cholesterol change in the vessels, and also an exciting cause of thrombosis or rupture at the site of such change, "with resulting infarction." The clinical picture of toxemia is explained as due to autolysis of the placental tissue with the formation of "poisonous protein split products"—such as guanidine, peptone and histamine.

COMMENT

From a pathological point of view the author's findings in the placentae of toxic patients are very instructive. From a clinical viewpoint it is most interesting but does not per se furnish any therapeutic information. Notwithstanding, since we do not know the cause of the toxemias of pregnancy, such studies are of inestimable value because, by a more thorough knowledge of the results of a given pathological process, we may discover its cause or causes. Let us, therefore, encourage such investigations, in order that we may the better understand the nature of our unsolved problems.

Specifically, the authors conclude that the hypercholesteremia of pregnancy is "the basis for vascular changes in the placental arteries that predispose to infarction." Excessive hypercholesteremia is induced by various factors of which hypothyroidism and a diet rich in cholesterol-containing foods are most important.

Read this paper; it contains a lot of sound information.

H.B.M.

Placental Transmission of Neoarsphenamine

F. F. SNYDER and H. SPEERT (*American Journal of Obstetrics and*

Gynecology, 36:579, Oct. 1938) report experiments on rabbits in which a single injection of nearsphenamine was given pregnant animals, at various stages of pregnancy, and quantitative determinations of the arsenic content of fetuses and placentas made at various periods of time after the injection. It was found that the rate of placental transmission of arsenic increased progressively as the pregnancy advanced. It was also found that the placenta contained much more arsenic than the fetus; the fetal portion of the placenta contained six times as much arsenic as the maternal portion, although the concentration of arsenic was only twice as great in the fetus as in the maternal portion. The findings indicate that there is a gradual liberation of arsenic from the placenta to the fetus as a greater amount of arsenic was invariably present in the fetus twenty-four hours after injection than after one hour. The concentration of arsenic in the fetus near term approached that "calculated to be present in the maternal tissues when definite antisypilitic effect is exerted." This would indicate that near term, when the transmission of arsenic through the placenta is at its maximum, there is sufficient arsenic in the fetus to be "an effective therapeutic agent." These findings support the clinical observations of

McKelvey and Turner (1934), which showed that the last trimester of pregnancy is the most important period for arsenical therapy in syphilitic women; even a few treatments in the last weeks before delivery "will materially improve the chances for a healthy child."

COMMENT

The world has become aroused over the social significance of syphilis. Every conceivable avenue is being utilized in the attack upon this age-old scourge about which so much has long been known but so little accomplished in the matter of prevention and cure. The reason for all this is a long story and cannot be told here. However, suffice it to say that any information gained through research or otherwise that will throw light on the effective treatment of syphilis is highly desirable. The authors have apparently done this in as much as they have experimentally proven that the placenta does not allow micro-organisms or chemicals to pass through it into the fetal circulation until the latter half of pregnancy is reached. Clinically this is very important because, due to this fact, we may more successfully combat fetal syphilis even when the luetic patient does not "show up" until late in her pregnancy. Remember this and give antisypilitic treatment to every luetic pregnant mother that consults you, irrespective of the stage of the pregnancy. Naturally, the earlier the pregnancy the more successful the therapy.

H.B.M.



THERAPEUTIC HYPERTHYROIDISM

Israel Bram, M.D.

—Concluded from page 74

siderably over 50 per cent of cases of thyroïdal obesity there is a tendency to partial relapse unless the patient returns at stated intervals for a check-up, and, if indicated, for the re-administration of thyroid substance, which may now be given successfully in smaller doses.

Summary

1. The induction of transient moderate hyperthyroidism is worthy of consideration in cases of hypometabolism yielding tardily to customary treatment.

2. The procedure of therapeutic hyperthyroidism consists of the cautious ad-

ministration of gradually increasing doses of thyroid substance to induce symptoms of moderate thyroid toxicity over such period of time as to result in material improvement or recovery of the patient from the basic condition.

3. The cases responding satisfactorily to therapeutic hyperthyroidism are simple colloid goiter, selected cases of obesity, hypothyroidism without obesity, myxedema and dystrophia adiposa genitalis.

4. Successful therapeutic hyperthyroidism depends upon (a) individualization in selection of cases, (b) frequent metabolic studies, (c) frequent observation of the patient respecting subjective and objective symptomatology, and (d) a careful follow-up program.
1633 SPRUCE STREET.

Medical Book News

* All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, New York.

Edited by Alfred E. Shipley, M.D., Dr. P.H.

A New Edition of Norris and Landis

DISEASES OF THE CHEST AND THE PRINCIPLES OF PHYSICAL DIAGNOSIS. By George W. Norris, M.D. and H. R. M. Landis, M.D. Sixth edition. Philadelphia, W. B. Saunders Company, [c. 1938]. 1019 pages, illustrated. 8vo. Cloth, \$10.00.

During the many years this book has been published through its various editions, it has achieved an authoritativeness that has placed it among the classics of medical literature. This, the sixth edition, is divided into four parts.

Part I, dealing with the examination of the lungs, adheres rather closely both in form and substance to that found in previous editions. It is still one of the finest texts printed on physical diagnosis of the chest.

Part II takes up the examination of the circulatory system. This, while retaining much of value of the previous editions, has in parts been so revised as to make it almost unrecognizable. There are whole new chapters on electrocardiography and x-ray studies of the heart and great vessels.

Part III deals with the diseases of the bronchi, lungs, pleura and diaphragm. This contains an entirely new chapter discussing in great detail such diseases of the lungs as bronchial asthma, bronchiectasis, lung abscess, cystic disease and, what is of especial interest, the relations of nasal and accessory sinus disease to the lower air tract.

Part IV treats of diseases of the heart embodying an excellent study of the pathology of heart disease, diseases of the pericardium, diseases of myocardium, endocarditis, congenital heart defects, diseases of the coronary arteries, diseases of the aorta and aneurism of the thoracic aorta.

This is an excellent standard textbook and should be on the desk of every medical student and practitioner of medicine.

FOSTER MURRAY.



ARISTOTLE
384-322 B.C.

Classical Quotations

● Conscientious and careful physicians allocate causes of disease to natural laws, while the ablest scientists go back to medicine for their first principles.

Aristotle. *Æsthetics*

personal style, indeed almost that of a scientific autobiography, the author carries one in detail into his concepts and their experimental proof. One is both interested in, and amazed at the scope covered in one man's lifetime in the investigation of problems concerned with respiration, whatever may be the cause and, what is more important, the relief of respiratory dysfunction. The book is highly recommended to all those who are interested either in the resuscitation of the newborn or in problems of

Henderson on Resuscitation

ADVENTURES IN RESPIRATION. Modes of Asphyxiation and Methods of Resuscitation. By Yandell Henderson. Baltimore, The Williams & Wilkins Company, [c. 1938]. 316 pages, illustrated. 8vo. Cloth, \$3.00.

This is a stimulating and interesting account of the author's progress in the study of respiration. Although written in a distinctly

respiration in the adult.

GEORGE B. RAY.

The Story of Anesthesia

TRIUMPH OVER PAIN. By René Fülöp-Miller. Translated by Eden and Cedar Paul. Indianapolis, Bobbs-Merrill Company, [c. 1938]. 438 pages, illustrated. 8vo. Cloth, \$3.50.

Pain is an almost omnipresent phenomenon in the more highly organized forms of life, and man is certainly no exception. Man is hardly ever completely free of pain, whether it be the pain of disease or that inflicted by his fellow-men. The history of pain is long and ancient, but just as lengthy is the story of man's attempts to abolish or to assuage his suffering.

Fülöp-Miller traces this story from antiquity to the present day. Naturally a large part of the book is devoted to the introduction of ether anesthesia in America and the controversies associated with it. This is the core of the book. But the author does not confine himself to these narrow limits. Ether is first mentioned by Raymond Lully in the thirteenth century as "sweet vitriol." Three hundred years later Paracelsus noted the soporific effects of this substance and recommended its use in painful diseases. Nothing came of these discoveries and in 1772 Priestley discovered nitrous oxide. Later Sir Humphrey Davy discovered its anesthetic effect. Thus the stage is first set for the introduction of ether.

The author treats the entire subject of the ether controversy in a very judicious manner, except for the fact that he misjudges the exact nature of Morton's so-called avarice. Fülöp-Miller's criticism of Morton is apparently based upon a misunderstanding regarding the question of medical and dental ethics during the nineteenth century. It should not be forgotten that at that time the dentist was still a good deal of an artisan, and was not expected to subscribe to a code of medical ethics. A dentist could still employ a secret remedy without any loss of professional standing, and expect to be remunerated accordingly just as physicians had still done two centuries before. Therefore, although there may have been a personal element in Morton's desire for monetary remuneration, it was probably largely socially conditioned and can only be

adequately understood within its social context.

The story of anesthesia is concluded with a discussion of the later discoveries, cocaine, novacaine, and the like. It is a comprehensive history of a very important field of medicine based upon considerable research. An exhaustive bibliography and a detailed chronological table add to the usefulness of the book. Written in a popular, engrossing style it is a volume which can be heartily recommended to both physician and layman.

GEORGE ROSEN.

A Pocket Size German-English Lexicon

ENGLISCH-DEUTSCHES UND DEUTSCH-ENGLISCHES MEDIZINISCHES WORTERBUCH. II. Teil. Siebente Auflage von Dr. Franz von Brattenberg. Leipzig und Wien, Franz Deuticke, [c. 1938]. 238 pages. 16mo. Cloth, M 7.

This work enjoys the advantages and incurs the limitations imposed by its small size. It is very convenient to own a German-English dictionary which so easily fits into one's pocket, but for the physician whose general vocabulary in German is at all limited a larger dictionary giving important non-medical terms will be needed. With this obvious qualification, the present volume is welcomed for its handiness and for its generally able definitions.

ELLISTON FARRELL.

Popular Sex Hygiene

"TELL ME THE TRUTH, DOCTOR". By Irwin I. Lubowe, M.D. Philadelphia, Dorrance & Company, [c. 1938]. 92 pages. 12mo. Cloth, \$1.50.

This booklet is written especially for lay people. Its subtitle is "A frank, revealing and educational discussion of venereal diseases and sex hygiene, conducted in the privacy of the physician's consulting room."

The venereal diseases discussed are gonorrhea, syphilis, chancroid, lymphogranuloma inguinale, granuloma inguinale, and fuso-spirochaetal balanitis. There are two short chapters on sex hygiene. The question and answer method has been used for the presentation of facts and there is a short glossary of medical terms.

The booklet may be recommended to laymen, especially to young people. The facts are clearly stated and are up to the minute, and there can be no doubt that the knowledge of these facts will

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tend to reduce the incidence of venereal infections.
H. L. WEHRBEIN.

ATTAINING MANHOOD. A Doctor Talks to Boys About Sex. By George W. Corner, M.D. New York, Harper & Brothers, [c. 1938]. 67 pages, illustrated. 12mo. Cloth, \$1.25.

Professor Corner wrote this booklet for his own boy to tell him what he should know about sex.

It may be recommended without reservation for young readers who require information in this field. The text, while concise, is adequate, and contains also a chapter on sex disorders in which venereal diseases are briefly discussed. There are fifteen illustrations.

H. L. WEHRBEIN.

A New Edition of Dorland's Dictionary

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By W. A. Newman Dorland, M.D. Eighteenth edition. Philadelphia, W. B. Saunders Company, [c. 1938]. 1607 pages, illustrated. 8vo. Cloth, \$7.50 with thumb index.

Greetings to the new Dorland, with its 3,000 new words, necessitating the addition of more than sixty pages. Modern literature has been ransacked; thus we find more than one hundred new tests listed and described. There are 942 illustrations, including 283 portraits. Although this is the eighteenth edition, it is a conveniently sized authority for the doctor's "desk library" and an indispensable one.

ARTHUR C. JACOBSON.

X-Ray of the Digestive System

CLINICAL ROENTGENOLOGY OF THE DIGESTIVE TRACT. By Maurice Feldman, M.D. Baltimore, William Wood & Company, [c. 1938]. 1014 pages, illustrated. 8vo. Cloth, \$10.00.

Entirely too often the clinician or surgeon is inclined to accept blindly the final

opinion expressed in the report of a roentgenologist. If he could form an opinion of his own, based on his own observations and examination, combined with the findings on roentgen examination it would benefit not only himself but his patient.

Doctor Feldman's book is a clinical and pathological treatise of the diseases of the digestive tract in combination with a careful and complete exposition of the technique, the findings and the niceties of differential diagnosis of lesions found by roentgenological study. It is a reference book which should appeal not only to clinicians and surgeons but to roentgenologists, being based on Feldman's rich experience as a member of the enthusiastic group of gastroenterologists surrounding Julius Friedenwald in Baltimore.

The arrangement of the material makes easy reading, the text is clear and worded in such a way that even anyone not familiar with the technical terms used in this branch of medicine may understand. The illustrations are beautiful, the bibliography complete. On the whole, it is a book which should be in the office of anyone attempting to do scientific work in gastroenterology.

A. F. R. ANDRESEN.

Two Books on Vitamins

HAVE YOU HAD YOUR VITAMINS? By Harry N. Holmes, Ph.D. New York, Farrar & Rinehart, [c. 1938]. 60 pages, illustrated. 12mo. Cloth, \$1.00.

This is a small book for lay readers that sells for one dollar. It is written by an authority on vitamin chemistry, Harry N. Holmes, Ph.D. distinguished as the first to isolate the crystals of vitamin A.

The subject matter on each of the vitamins is interesting and well written. The author has included in the appendix the chemical structure of the vitamins of known formula, unnecessary for lay reader unless familiar with organic chemistry.

The concluding chapter of two and one half pages is very weak and to this reviewer contains a completely wrong attitude, as it implies that the reader get his vitamins as pills or capsules at the drug store rather than at the market place and dairy, and by patronizing good sunshine. Because of the erroneous impres-

sion we do not feel that we can recommend this book.

The solution to the vitamin problem for the general public is proper diet.

PAUL C. ESCHWEILER.

THE VITAMINS AND THEIR CLINICAL APPLICATIONS. A Brief Manual by Prof. Dr. W. Stepp, Doz Dr. Kühnau and Dr. H. Schroeder. Milwaukee, The Vitamin Products Company, [c. 1938]. 173 pages. 4to. Cloth, \$4.50.

This volume is a translation of a manual published in Germany early in 1936. As a compendium of information, good and bad, regarding the vitamins, it is a valuable summary of the literature previous to 1936, particularly of the European journals. Its practical value is limited by the inclusion of material of debatable if not of doubtful value, so that the book is a guide to the literature rather than a guide to practice. As such, it is a useful addition to the long list of vitamin compends.

ELLISTON FARRELL.

An English Surgeon's Life Story

THE HEALING KNIFE. A Surgeon's Destiny. By George Sava. New York, Harcourt, Brace and Company, [c. 1938]. 310 pages, 8vo. Cloth, \$2.50.

"George Sava" is the pseudonym of a surgeon practicing in England who has recorded a most unusual life history as a student and as an interne on the continent before he began to practice his calling in England. The book begins with his life as a boy of seventeen, a member of the old aristocracy of Russia, serving as an officer in the navy of the White Russians. Then follow some wildly exciting experiences in Constantinople, Sophia, Paris and Florence,—with the final realization of his ambition to become a doctor and a surgeon.

We are prompted to question this tale of personal trials and tribulations until we read of his prize winning achievements and special honors. There are accounts of surgical experiences of the student and of the distinguished men with whom he was associated at various times. The book is, however, essentially a biography. He has hinted that he may have occasion to tell something in the future of the later years of his life in England. We hope that he finds the opportunity to do so.

J. RAPHAEL.

MEDICAL TIMES, FEBRUARY, 1939

Popular Book on Prenatal Life

BIOGRAPHY OF THE UNBORN. By Margaret S. Gilbert. Baltimore, The Williams & Wilkins Company, [c. 1938]. 132 pages, illustrated. 8vo. Cloth, \$1.75.

As a book for the laity or "the general reader" according to the author, this book is unique. The whole story of the development of man is told simply and clearly. Many line drawings help the text, which sketchily but rather completely covers the subject. Even the author catches her breath, telling the amazing story which is still full of gaps which science cannot fill. Human embryology for the public is something new.

CHARLES A. GORDON.

Treatise on the Ear

PRACTICAL OTOTOLOGY. By Morris Levine, M.D. Second edition. Philadelphia, Lea & Febiger, [c. 1938]. 416 pages, illustrated. 8vo. Cloth, \$5.50.

The title well describes this work, which is recommended. The book in its second edition is well written, and obviously presents otology as the author knows, accepts, and teaches it. It contains a brief but thorough review of anatomy and physiology of the ear.

Diagnosis and treatment, both medical and surgical are evaluated from the practical experience of the author. He does not attempt to disprove the value of other otologic theory or practice, but describes that which he accepts quite fully. The management of the patient from the general medical aspect is stressed and is noteworthy.

The book is essentially for postgraduate students, but could be used also for the undergraduate. It should be of much practical value to general physicians and surgeons necessarily practicing otology.

CHAS. R. WEETH.

A Guide for Interns

INTERNS HANDBOOK. A Guide, Especially in Emergencies, for the Intern and Physician in General Practice. Under the direction of M. S. Dooley, M.D. Second edition. Philadelphia, J. B. Lippincott Company, [c. 1938]. 523 pages. 16mo. Cloth, \$3.00.

The publication of a second edition of this book attests its value not only to the intern but also to those who keep abreast of the advances in methods of caring for the ailing.

The book has been revised throughout,

and a number of new sections added. The authors or collaborators, and there are many of them, have included in this volume practically all of the information necessary to cope with any situation which may arise, especially in the emergency treatment so frequently met with in hospitals.

The first section on relationships contains much not taught in medical colleges. This volume is condensed, accurate, clear, and will prove a handy reference book.

HENRY M. MOSES.

Andrews' Revised Dermatology

DISEASES OF THE SKIN FOR PRACTITIONERS AND STUDENTS. By George C. Andrews, M.D. Second edition. Philadelphia, W. B. Saunders Company, [c. 1938]. 899 pages, illustrated. 8vo. Cloth, \$10.00.

In preparing this edition the author has largely rewritten the text. He has included seventy-five new diseases, and added chapters on "Diseases Caused by Filterable Viruses," "Deficiency Diseases" and "Cutaneous Infiltrations of Products of Metabolism" such as the lipoidoses, *soleroderma adutorum*, etc.

About two hundred new photographs make a total of over nine hundred. This feature needs no further comment to assure its excellence.

With the revisions of text and a fine printing job throughout, this is a vastly improved book, and the reviewer does not hesitate to recommend it.

E. ALMORE GAUVAIN.

A Search for Truth

HONESTY. By Richard C. Cabot. New York, The Macmillan Company, [c. 1938]. 326 pages. 8vo. Cloth, \$2.50.

The philosophy of Emerson has been revived by the latest book from the pen of Dr. Cabot. After a careful reading of the material assembled by the author, we are almost tempted to agree with the Psalmist, when he said "In my haste I said all men are liars." Perhaps we should not go quite so far, but the proofs presented give good reason for deeper consideration as to the use of language in our conversation and writings.

To enlighten the reader, the author very clearly outlines the field and the definitions of truth, in order that we may comprehend the purpose of the presentation. Following this section various ex-

amples are cited to prove that "self deceit" is primarily the cause of the false statements, so generally indulged in by every one, not necessarily for deception, but because of loose thinking and carelessness. Some are, however, distinctly intentional and are prevarications. The final section is most interesting, as it gives at length the "Philosophy of Honesty" as conceived in the mind of the author.

In this day and generation we well might take the time to enlighten our own minds, as to just the reality of deception both intentional and innocent. This book gives a good start for such evaluation.

EUGENE W. SKELTON.

A Chronicle of Chromosomes

THE FAMILY OF THE BARRETT. A Colonial Romance. By Jeannette Marks. New York, The Macmillan Company, [c. 1938]. 709 pages, illustrated. 8vo. Cloth, \$5.00.

This definitive biography of Elizabeth Barrett Browning possesses a special interest for those who are intrigued by the bearings of heredity, ethnic factors, disease and drugs upon a creative personality such as was this celebrated writer, and, whether so intended or not, it is one more embarrassment for naive eugenisists. Thus among the "life influences" upon Edward Moulton-Barrett and consequently upon his daughter Elizabeth, Professor Marks sets down the bar sinister, miscegenation, opiumism, human bondage, and murder. Add to this the mental alienation of the father, and the tuberculosis and drug addiction of the daughter, and we begin to see another instance of genius stemming from stock essentially bad despite a deceptive sprinkling of captains, majors, colonels, brigadier-generals, high sheriffs, officers of the Legion of Honour, bearers of the Military Cross, Companions of the Most Honourable Order of the Bath and of St. Michael and St. George, and colonial capitalists on the Indian rajah scale of wealth in land and gold. But the discerning student of this ancestry is arrested and appalled by the exploitation of slave labor on the part of this family for two hundred years in the island of Jamaica in the West Indies. So the daughter of Edward Moulton-Barrett was property—was a slave, a symbol in Victorian England of the victims of

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Englishmen's whips, for such men, used to dominating like gods over black men, could not put aside their bogus divinity in their own family circles. This exactly expresses her status—terminated at last by a kind of fairy prince in the person of Robert Browning.

Elizabeth was well aware of her heritage, which she regarded as a "curse." Sex linkings of any sort were traditionally perilous in the island of Jamaica, so frequently was black blood involved. It was a sardonic penalty that these English families paid for their industrial supremacy. Marriage was so hazardous that even in England Elizabeth's father could not relax his vigil. Browning, his son-in-law, another descendant of Jamaican people, probably had black blood in his veins. This is one of Professor Mark's interesting discoveries.

The Creole in Elizabeth accounted for much of her temperament. What Englishwoman in the stuffy England of her day, untouched by this or a similar passionate blood, could have written *Sonnets from the Portuguese*, or for that matter, in her state of health, could have contrived to achieve six pregnancies? (A small number for a West Indian Barrett.)

Elizabeth's spinal ailment at about the age of fifteen was presumably tuberculous spondylitis. Early in 1838 she suffered a pulmonary hemorrhage, and then begins the lifelong record thereafter—twenty-three years—of addiction, first to laudanum, later to morphine. *Sonnets from the Portuguese* was written about the time of the elopement of the lovers—1846. Her prolific literary phase while they were in Italy went along with the toxic drive and the drug release.

Morphine was first isolated in 1806. Wholesale manufacture was started in 1827. In 1844 E. Rynd introduced the hypodermic syringe. Although the use

of the syringe was not popularized until 1853 by A. W. Wood, it is altogether probable that Mrs. Browning, treated by the leading London practitioners, may have been inspired by the application of the method in her case to write the following lines quoted suggestively in this connection by Professor Marks:

All my wisdom seems to depend upon being
pricked with pins . . . or rather with something
sharper.

Julia Ward Howe, author of the Battle Hymn of the Republic, writing about Mrs. Browning's "unmeasured heights," set down her disapproval (and jealous pique?) of the poet's flights in the following stanzas:

I shrink before the nameless draught
That helps to such unearthly things,
And if a drug could lift so high,
I would not trust its treacherous wings;

Lest, lapsing from them, I should fall,
A weight more dead than stock or stone,—
The warning fate of those who fly
With opinions other than their own.

Mrs. Browning's benevolence, righteousness and spirituality must needs be related to her ancestral heritage, for the slaveholders and slavetraders of the long Barrett line were notable for benevolence, righteousness and Church-of-England piety. Mrs. Browning was no hypocrite, and reprobated the sources of her nurture and culture, but the ancient psychologic patterns along softer lines were easy for her to follow in a fashion somewhat compensatory for the family "curse." Perhaps to be truly benevolent we must have factors of the Barrett sort in the germ plasm. At any rate, Professor Marks is to be thanked for her astonishing revelation of just how the "respectable" Barrett chromosomes were shuffled in the making of Mrs. Browning—than which we have seen nothing more exhaustive in biography.

ARTHUR C. JACOBSON.

BOOKS RECEIVED for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

HANDBOOK OF HISTOLOGICAL AND CYTOLOGICAL TECHNIQUE. By R. R. Bensley and S. H. Bensley. Chicago, The University of Chicago Press, [c. 1938]. 167 pages. 4to. Cloth, \$2.00.

THE TREATMENT OF FRACTURES. By Charles Locke Scudder, M.D. Eleventh edition, revised. Philadelphia, W. B. Saunders Company, [c. 1938]. 1208 pages, illustrated. 8vo. Cloth, \$12.00.

- THE NEW INTERNATIONAL CLINICS.** Original Contributions: Clinics; and Evaluated Reviews of Current Advances in the Medical Arts. Edited by George M. Piersol, M.D. Volume IV, New Series One. Philadelphia, J. B. Lippincott Company, [c. 1938]. 349 pages, illustrated. 8vo. Cloth, \$3.00.
- THE MARCH OF MEDICINE.** Selected Addresses and Articles on Medical Topics, 1913-1937. By Ray Lyman Wilbur, M.D. Stanford University, Stanford University Press, [c. 1938]. 280 pages. 8vo. Cloth, \$2.75.
- BIOCHEMISTRY FOR MEDICAL, DENTAL AND COLLEGE STUDENTS.** By Benjamin Harrow, Ph.D. Philadelphia, W. B. Saunders Company, [c. 1938]. 383 pages, illustrated. 8vo. Cloth, \$3.75.
- THE SURGICAL TREATMENT OF HYPERTENSION.** By George Crile. Edited by Amy Rowland. Philadelphia, W. B. Saunders Company, [c. 1938]. 239 pages, illustrated. 8vo. Cloth, \$4.00.
- A TEXT BOOK OF HISTOLOGY.** By Alexander A. Maximow and William Bloom. Third edition. Philadelphia, W. B. Saunders Company, [c. 1938]. 668 pages, illustrated. 4to. Cloth, \$7.00.
- TRAUMA AND INTERNAL DISEASE.** A Basis for Medical and Legal Evaluation of the Etiology, Pathology, Clinical Processes following Injury. By Frank W. Spicer, M.D. Philadelphia, J. B. Lippincott Company, [c. 1939]. 593 pages, illustrated. 8vo. Cloth, \$7.00.
- MIDWIFERY.** By Ten Teachers under the direction of Clifford White, M.D. Edited by Sir Comyns Berkeley, Clifford White and Frank Cook. Sixth edition. Baltimore, William Wood & Company, [c. 1938]. 676 pages, illustrated. 8vo. Cloth, \$6.00.
- THE CHEMISTRY OF NATURAL IMMUNITY.** By William F. Koch, M.D. Boston, The Christopher Publishing House, [c. 1938]. 199 pages, illustrated. 8vo. Cloth, \$2.00.
- THE ABNORMAL IN OBSTETRICS.** By Sir Comyns Berkeley, M.D., Victor Bonney, M.D. and Douglas MacLeod, M. B. Baltimore, William Wood & Company, [c. 1938]. 525 pages. 8vo. Cloth, \$6.00.
- M ONE THOUSAND AUTOBIOGRAPHICAL SONNETS.** By Merrill Moore, M.D. New York, Harcourt, Brace and Company, [c. 1938]. 1000 pages. 8vo. Cloth, \$5.00.

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EDITORIALS

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not even filed, and much of it is never recorded in any form.

At the Brooklyn Hospital, fostering mother of such notable figures in our literature as Ernst Krackowizer*, Walter Reed, George R. Fowler, Glentworth R. Butler, and Robert L. Dickinson, such derelictions are to be minimized, at least, in the future. There will be little excuse for evading the responsibility of publishing one's work.

No advertising matter is admitted to the pages of the journal and it is believed that all of that host who are now or ever have been affiliated with the hospital will support the new venture.

The five papers which this initial number contains set a high standard for

future issues, while the Reviews and Abstracts discuss and summarize the contributions of present and former staff members in current publications, a feature which should prove highly interesting and stimulating to the group concerned.

There are admirable precedents for such a publication. One at once recalls the Bulletin of the Johns Hopkins Hospital, Guy's Hospital Reports, Mount Sinai Hospital Reports, Staff Proceedings and Collected Papers of the Mayo Clinic, and the Guthrie Clinic (and Robert Packer Hospital) Bulletin. However, one senses larger implications in the word *journal* of the present title.

We salute the spirit of a hospital which has signalized three of its major developments, since 1846, by moving either in the face of an impending depression or shortly after one; and which now launches a medical journal before the end of the greatest depression of all.

* Med. Times and Long Island Med. J., 63: 153-155 (May, 1935).

Editorials

A Pack of Cards

SOMEHOW or other, as we read the indictment of the American Medical Association, the trial scene in *Alice in Wonderland* kept coming back to us. We wonder why?

"No, no!" said the Queen.

"Sentence, first—verdict afterward."

"Stuff and nonsense!" said Alice loudly. "The idea of having the sentence first!"

"Hold your tongue!" said the Queen, turning purple.

"I won't!" said Alice.

"Off with her head!" the Queen shouted at the top of her voice. Nobody moved.

"Who cares for you?" said Alice (she had grown to her full size by this time). "You're nothing but a pack of cards!"



**ESTABLISHED
IN 1872**

Medical Service the Least

Deficiency of the Underprivileged

DR. S. S. GOLDWATER, Commissioner of Hospitals of the City of New York, in the course of his recent testimony before the New York State Temporary Commission to Formulate a Health Program, contributed a striking thought which proponents of political medicine seem not to have taken into much, if any, account. Medical service in his own community, he said, is "more readily accessible to the underprivileged . . . than proper shelter, health-sustaining food, suitable clothing and facilities for recreation." The thought could not be better put, and enables us to survey this matter of political medicine from a highly edifying angle.

Rocky Road To Glory

WHEN William Gorgas of the army medical corps was sent to Panama by the Surgeon General, what little at-

tention he got from the builders of the canal was mostly hostile. He realized the yellow fever peril but on the mosquito question he was considered a little bit "balmy" by his Washington superiors, who ordered him to stop cabling and to use the mails. What he needed was assistance and mate-

rials for the great task of exterminating the mosquitoes. Gorgas had seven men and a nurse.

When the yellow fever inevitably did break out Gorgas was blamed for it. He had fussed over mosquitoes instead of limiting his endeavors to cleaning up the filth of the Canal Zone. Taft, Secretary of War, inspected the Zone and resolved to remove Gorgas. But then came the publicity characteristic of democracies and President Roosevelt removed the Canal Commissioners. Still there was something wrong, for the new Commission in turn recommended the removal of the man who was a little bit "off" on the subject of mosquitoes, and this recommendation was approved by Taft.

Of course Walter Reed's work was known to some, and when Taft's recommendation reached Roosevelt it found the latter prepared to deal with the issue, thanks to the coaching of Dr. Lambert. Said the President: "By George, I'll back up Gorgas and we will see it through."

So the man who had been "chasing mosquitoes" in defiance of everybody was officially empowered and equipped to chase mosquitoes to his heart's content. The rest is history.

This situation finds many duplicates in kind, in places high and low. The road to glory is frequently rocky. When triumph crowns all, the greater the meed of praise which should go to the medical hero.

The Rating of Authors And Practitioners

IF one were trying to select a physician for a patient settling in another town, one would look first to organized medicine affiliations. Membership in the County Society would at once come under scrutiny. In choosing between two members of a hospital staff, one of whom was a member of his County Society and one not a member, the former would be selected.

The same consideration would hold good in selecting papers for publication in a medical journal conscientiously studying the needs and interests of its readers.

Oddly enough, not all hospitals, as yet, demand the affiliations in question on the part of their staff memberships.

The type of paper which exacts of an editor the least effort in reaching a decision is the therapeutically dubious one from the man who is unaffiliated; and it is remarkable how frequently these two elements are conjoined.

The fact that we have always had men of great ability and high personal honor who could not be gauged by our primary criterion does not today invalidate its essential soundness for all practical and pragmatic purposes.

Wealth and The Physician

IT has been argued that wealth and the physician do not go well together. Beaumont, Sims, Sir Astley Cooper and Dupuytren are cited as evidence; with wealth gained their genius and productivity waned.

It may be so. At any rate, there will be fewer and fewer instances from which to judge. The question is almost an academic one.

The wealthy doctor will soon be as rare as hens' teeth.

Sex Hygiene Teaching In the School System

THE Greeks had a name for the teaching of sex hygiene in the schools; in ancient Corinth they gave instruction to "high school" maidens in the "arts of love." In these Corinthian academies the girls majored in a curriculum which went far beyond the biology of the barnyard. The Greeks were pagans devoid of puritanism.

Sex hygiene teaching in the schools of today could go to the left only so far as our fundamental puritanism would sanction. This "nasty-nice" element dominates the scene. About ten years ago Mary Ware Dennett was repudiated and, indeed, prosecuted, for advocating sex hygiene teaching of a type which was essentially puritanic, yet strangely misunderstood as such by the witch hunters of that day. Thus she advocated the teaching of all the truths of sex to very young people while at the same time any idea of sexual freedom was to be denied to them. She went beyond the conventional limitations of physiology, natural science and morals, and insisted upon thorough discussion of the emotional side of the sex life. The whole significance of the sexual climax was to be thrillingly described, as well as much else concerning erotic love.

But however bright the picture, this noted educator was insistent that not a whit of pleasure was to be realized through its means. The young were to "let their sex machinery alone"; it was not to be exercised; it should merely get "strong and ready for its good, happy work" when the right time came; repression was to be sedulously practiced.

This, of course, was just the same as telling the boys and girls how candy is made and what it is like, but then insisting that it must not be tasted or eaten. Youth was to be invited to "try to get it", while at the same time a machine gun was unlimbered. The morsel was to be dangled and the knuckles of those who reached for it were to be well rapped. Mrs. Dennett thus sought to provide youth with a complete chart of the erotic emotions at the same time that complete prohibition of sexual free-

—Continued on page 141

Diagnostic Rules

SOMETIMES MISLEAD

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IN diagnosis we are taught to depend upon certain rules that usually are reliable; but now and then such confidence leads to error. We learn, therefore, more from experience than we do from books; because the exception to rules thus acquired impresses us even more strongly than the rules themselves. An illustration of this fact is afforded by the following case report.

History: A man aged 61 had been ill for about three months when he first presented himself for advice. His chief complaint was of attacks of pain in his right side at the border of his ribs. Of these there had been three. The first one was not very severe but lasted a few hours. After that he remained well for about two weeks before a second attack occurred. This lasted all of one day but was not particularly severe. No jaundice accompanied or followed either of these paroxysms of pain. Then, after three weeks' intermission, came a third attack, more violent than either of the two preceding; beginning one morning, and lasting all day, with very intense pain. Following this the patient began to get yellow and had continued to be so ever since, the pigmentation gradually increasing in degree, with constant itching of the skin. No further complaint was made of pain but since the last attack the man had felt miserable; with no appetite, more or less distress and sourness after all food, weakness and depression of spirits and continuous loss of weight.

Physical Examination: The patient's

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weight was 165 pounds as compared with 182 before his illness began. The skin and all visible mucous membranes showed extreme jaundice. There was no sign of organic disease of the heart but its rate was slow. The lungs likewise gave no evidence of disease. The liver was moderately enlarged so that its lower border was palpable a little below the costal margin and it felt more firm than normal; but it was not tender and its surface was not irregular. The spleen was not palpable. No abdominal tumor or other abnormality could be discovered. There was no edema of the extremities.

Laboratory Examinations: Only a slight secondary anemia was found, with hemoglobin 85 per cent, red corpuscles 4,360,000 and white corpuscles 9,500. The blood Wassermann was negative. The icterus index was 100 units. Stomach contents after a test meal showed almost complete absence of free HCl. The urine was normal except for the presence of bile. The feces were clay color with a large increase in fat but presented no other abnormality.

X-ray Examinations: Before the patient came under my observation, x-ray films of his gallbladder region had already been made at a large hospital elsewhere; and he brought with him a report stating that the gallbladder contained either one large stone or a conglomeration of small ones. This examination was repeated at Stanford Hospital and there also the report stated: "the gallbladder is full of stones". No defect was noted in the outline of stomach, pylorus or duodenum.

Diagnosis: The history of several attacks resembling biliary colic, with a final one followed by persistent jaundice, is typical of recurring passage of a gallstone from the gallbladder to the duodenum, before the stone finally becomes impacted in the common duct. All this is so characteristic that from history alone the diagnosis seemed certain. That the jaundice was of the obstructive type was proved by the degree of bilirubin retention in the blood, by the intense itching of the skin and by the absence of symptoms that characterize acute or chronic hepatitis or conditions causing hemolysis. When a neoplasm originating in the common duct is the cause of the obstruction, another trusted diagnostic rule is that jaundice comes on insidiously, without attacks of pain preceding it. When the duct obstruction is caused by pressure of a mass originating elsewhere, as in the stomach or pancreas or gallbladder, different symptoms are presented, different signs are discovered on physical examination, different laboratory findings are observed and x-ray films show the effects produced by such a mass on other organs besides the bile duct. Thus it seemed as reasonably certain as investigation can make it, that this man had cholelithiasis with a stone lodged in his common duct; and for this operation was advised.

Operation: When the abdomen was opened, however, contrary to all expectations, no gallstones were found; there were none in the gallbladder and there was none in the duct. The diagnosis was correct to the extent that the jaundice was obstructive; but the cause of ob-

struction was found to be a neoplasm situated just at the junction of the cystic and hepatic ducts. This was about an inch long, very hard and dense, the size of a little finger, extending higher up the hepatic than along the cystic duct. No attempt was made at removal, because this would prevent any subsequent connection between the liver and the bowel for the transmission of bile. No anastomosis between gallbladder and duodenum was feasible, because hepatic duct occlusion made this useless. Thus what promised to afford relief to cholelithiasis and jaundice, by cholecystectomy and restoration of a patulous common duct, turned out to be discovery of a hopeless situation for which no cure was possible.

Comment: The most deplorable consequence of a wrong diagnosis is the faulty prognosis that follows. To assure a patient that the condition causing symptoms is such that it can be removed by surgery, with restoration of health, and then be compelled to explain subsequently that what was found could not be successfully removed after all, is not a happy experience. Human judgment is fallacious, and therefore it is better to speak guardedly and not too positively about both diagnosis and prognosis. One of the bits of advice repeated to students by Osler, at frequent intervals, used to be this: "Don't talk too much. The less you say, the less you have to take back"; and the wisdom of this appeals to us more and more, the older we grow, and as experience increases.

SHREVE BUILDING.



ENDOCARDITIS

IT IS common to explain the development of all types of endocarditis by infection, differing in the types of micro-organisms. A large school of thought accepts the thesis that rheumatic endocarditis is caused by some microorganism. Unable to establish a direct connection between rheumatic endocarditis and bacteria, they express a view (McCallum) that rheumatism is caused by some specific infection not recognizable at present because of inadequacy of technical methods. This school is apparently in agreement that it seems very improbable that the numerous bacteria that have been so far isolated from rheumatic cases have a true etiologic relation to the disease.

A. J. Nedzel, M.D. In *Archives of Physical Therapy*, June, 1938

TREATMENT OF

Pneumonia

EDWARD G. CAMPBELL, M.D.

Memphis, Tennessee

DURING the past few years, the treatment of pneumonia has occupied much space in the medical literature. Many remedies have been advanced, only to be discarded. After all has been said and done, the mortality rate in the hands of the average practitioner has changed but little.

The pneumococcus still holds many secrets and much has yet to be learned about the pathogenesis of pneumonia. With the recent developments in the bacteriology, which seem to have no end we note that, at first, four types were described; later, Cooper was able to isolate thirty-two types and, more recently, Nissen claims to have isolated one hundred and ninety-two different strains. Eighty per cent of all cases of pneumonia are caused by the following types and approximately in the order named: I, II, III, VIII and IV. Immune sera have been developed for the following types: I, II, VII, VIII and XIV and more recently immune sera for each of the thirty-two types has been placed on the market. As yet, sufficient time has not elapsed to evaluate their true worth.

Since about fifty per cent of all cases of pneumonia fall into groups I and II, it is probably best to give the bivalent I and II serum while awaiting the outcome of the sputum typing. The serum should be given early and given in large amounts. It has been my practice to give 10,000 units intravenously in 200 cc. of 10 per cent glucose and to give 20,000 units about one hour later if no reaction occurs. This should be repeated at four to six hour intervals until improvement occurs. It is always best to give a preliminary intradermal test to determine whether the individual is sensitive to

horse serum. If the slightest reaction occurs, it is advisable either to withhold serum treatment or to give a small immunizing dose and to follow this in about one hour with the regular amount. It has been my practice to precede the serum with 5 m. adrenalin subcutaneously about five minutes before the serum is begun. As in all intravenous medication, a small bore needle should be used and the mixture given slowly.

OXOGEN has recently received much attention in the treatment of pneumonia. No doubt this has much merit and should be given at the first indication of anoxemia. My experience with the oxygen tent has been rather disappointing. The patient, when placed in this inclosed chamber, in most cases, is literally scared, but, if he survives the first shock, he usually makes a good patient and does well. In my hands, the nasal catheter has been the most satisfactory method of administering oxygen. Up to six liters per minute can be given by this method. The oxygen should always be run through water and the nasal catheter lubricated with vaseline, as the jellies are water soluble and will soon be dissolved from around the tube and the rough tube may act as an irritant to the nasopharynx. The oxygen-carbon dioxide combination in my hands has been unsatisfactory.

Digitalis is no longer used as a routine measure in the treatment of pneumonia, but is given where cardiac complications arise just as if pneumonia did not exist.

Pneumothorax, in my opinion, is a bad procedure and has no place in the treatment of this disease.

WITH all of our recent advances, the treatment of pneumonia in the hands of the average practitioner is largely supportive.

As soon as the diagnosis is made, the patient should be placed in a well ventilated room, preferably one with more than one window. If the room is a corner room, the bed should be placed between the windows and proper screens should be placed to avoid drafts and damp atmosphere. The room should be kept cool with temperature as near 65° as possible. The patient should wear a flannel nightgown or nightshirt. The bed cover should be warm but not heavy and bulky. If possible, the type of infection should be determined and the decision made as to whether serum is to be given or not.

The temperature, pulse and respiration should be recorded at least every four hours. The blood pressure should be taken daily. A leukocyte count and urinalysis should be made twice a week. The patient should have absolute rest and no visitors except the attendants. A flannel jacket or compress may be applied to the patient's chest if it affords him comfort. A warm sponge bath should be given daily. The diet as a rule should be liquid and given every two hours; six ounces at each feeding. It should consist of meat broths, meat juices, strained soups, fruit juices, albuminized drinks, cereal gruels, tea, coffee, cocoa, milk and egg-nogs. Dextrose should be used as sweetening and added to all foods except soups and broths. As convalescence is established, soft articles are added, such as custards, junkets, ice cream, soft eggs, toast, milk toast, tapioca, rice, etc.

AT the onset, following the chill with high fever, restlessness should be combated with codeine grain $\frac{1}{2}$ every four to six hours. If this does not suffice, pantopon grain $\frac{1}{2}$ or morphine grain $\frac{1}{4}$ or preferably dilaudid in $\frac{1}{32}$ grain doses should be given. An ice cap should be placed on the head. A light mustard plaster over the affected area every eight hours affords the patient much relief in many cases. This, in my opinion, is preferable to diathermy, which causes

profuse sweating with much fluid loss. The bowels should be kept open with a daily enema. Ammonium chloride in five to seven and one-half grain doses given in enteric-coated tablets is often beneficial where the expectoration is scanty. In cases of severe toxemia, glucose may be given intravenously—200 cc. of 20 per cent solution every six hours. Larger quantities may embarrass the circulation. Where larger quantities of fluid are desired, hypodermoclysis should be resorted to, using 1,000 cc. of 3 per cent glucose solution. This may be repeated at eight hour intervals. Tympanitis may be exceedingly troublesome and not relieved by the daily enemas. Here, turpentine stupes, asafetida enemas, pitressin, pituitrin or prostigmin should be given as needed. I have seen a few cases which I thought were benefited by the use of quinine. Optochin base is no longer used routinely in the treatment of pneumonia. Sulfanilamide is of little or no value in the treatment of pneumonia. When stimulation is first needed, the drugs of choice are coramine or metrazol given at two to four hour intervals. Where further stimulation is needed, caffeine with sodium benzoate in seven and one-half grains doses may be given and repeated at four hour intervals.

WITH severe toxemia and a falling leukocyte count, liver extract injections in 2 cc. doses may be given daily until the cell count begins to rise.

If pulmonary edema occurs, atropine in $\frac{1}{100}$ grain doses should be given at four to six hour intervals until relieved.

After the crisis, the diet should be gradually added to. A minimum of ten days in bed after the temperature has reached normal is certainly desirable. Getting up and out should be a gradual process and directed largely by the general condition and reaction to exercise. It is desirable that these convalescents avoid severe physical strain for several months, if possible.

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Spinal Epidural Lesions

WITH A REPORT OF THREE CASES

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and

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COMPRESSIVE lesions of the spinal cord call for early recognition if invalidism is to be avoided. This is significant if the former are due to extramedullary tumors but it is of special import when the cord damage is due to infection. This paper is devoted to the problems of the spinal epidural space, which have not received sufficient attention.

The spinal epidural space, which is filled with areolar tissue and a layer of moist fat, has been shown by Dandy (1) to be restricted to the dorsal surface of the cord, except in the lower sacral region where it surrounds the cord completely. Furthermore, the space over the cervical and lumbosacral swellings is extremely thin. These facts explain why epidural infections are more constantly found on the dorsal surface of the cord and in the thoracic region.

Among the various lesions found in the spinal epidural space are neoplasms, abscesses, granulomas, thrombophlebitis of the meningeal veins (Spiller), extradural cysts, protrusion of the intervertebral disc and infiltration associated with leukemia and Hodgkin's disease. In this presentation we are concerned chiefly with tumors and infections of the spinal epidural space.

From the Department of Neurology, Graduate School of Medicine, University of Pennsylvania.

Presented before the Philadelphia Neurological Society, April 22, 1938.

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Tumors of the Spinal Epidural Space

EXTRADURAL tumors are more common than is generally supposed; thus, Craig (2) found, among 312 cases analyzed, 223 tumors which did not involve the spinal cord except by compression, and of these there were 67 which were entirely extradural. According to Elsberg (3), the primary extradural spinal tumors include meningeal fibroblastomas, perineural fibroblastomas, sarcomas, chondromas, lipomas, angiomas, fibromas, neurofibromas of von Recklinghausen's disease and osteomas. According to Ford (4), sarcomas comprise a large percentage of the spinal cord tumors of childhood.

Growths which originate outside of the vertebral canal and invade the extradural space by continuity include sarcomas, chondromas, chordomas and ganglioneuromas.

The metastatic extradural tumors include carcinomas, most frequently from the breast, thyroid, prostate and gastrointestinal tract; sarcomas; hypernephromas and myelomas. Carcinoma usually invades the epidural space from a vertebra, although, as in our Case II, there may be involvement of the epidural space without involvement of the bone.

THE following two case reports illustrate primary and secondary tumors in the epidural region.

Case I

M. R., male, aged 18, was brought into the Dispensary of the Graduate Hospital on August 5, 1937, complaining of pain in the middle of his back and inability to walk. He stated that he had been having low back pain for the previous five months. This pain was described as having been dull in character, more or less constant, but aggravated by exertion or straining. There was no history of fever or loss of weight or of any boils

or other infections. About a week before his admission to the hospital, he began to feel numbness and weakness in his lower extremities and some urgency of urination. The weakness in the legs became rapidly worse, so that when he entered the hospital he was unable to walk.

Examination

When first seen, the patient exhibited the following neurological abnormalities: Marked weakness of both lower extremities, accompanied by increased deep reflexes, bilateral Babinski's signs, loss of pain sensation below the twelfth dorsal dermatome on the left and the tenth dorsal dermatome on the right, loss of the senses of position and vibration in the lower extremities, a relaxed anal sphincter, rigidity of the neck and a bilateral Kernig sign.

Spinal puncture revealed a subarachnoid block. After cisternal injection of lipiodol, x-rays showed a complete arrest of the dye at the level of the ninth dorsal vertebra. X-rays of the vertebrae and lungs were negative.

On the basis of these findings, a diagnosis of extramedullary tumor was made. Dr. F. C. Grant removed the laminae of the fifth to the twelfth dorsal vertebrae, inclusive, and discovered a tough, vascular extradural mass under the spines of the tenth to the twelfth dorsal vertebrae. This tumor was not at all adherent to the dura, which was, therefore, not opened. The histopathologic diagnosis was neurogenic sarcoma.

The convalescence was complicated by the development of a stubborn urinary tract infection which finally subsided. He received deep roentgen-ray treatment and was discharged from the hospital on December 3, 1937, the power in his limbs and bladder control considerably improved.

Comment

The neurological examination established the presence of a transverse cord lesion, while the subarachnoid block indicated that the lesion was compressive in nature. The evidences of meningeal irritation at once aroused suspicion of an epidural abscess and led to prompt laminectomy.

Case II

F. T., a white man, 39 years old, had a skin tumor removed from his scalp and another from his chin early in 1937. The exact nature of these growths is unknown. Later, during the summer, the patient noticed a burning, tingling sensation around his midthoracic region, just below the nipples. These paresthesiae were intermittent and never severe. In September of 1937 he developed a persistent low backache. He went to a physician who gave him some medicine, which, however, brought no relief. After a month of this backache the right leg suddenly became so weak he could hardly stand on it; on the following day, the left lower limb also became numb and weak. He was admitted to a hospital where a spinal puncture was done: the initial pressure was recorded as 190 mm. of water; this rose slowly, on jugular constriction, to 240 mm. and, on release, there was a very slow drop to 220 mm. After removal of 5 cc. of spinal fluid, the closing reading was 150 mm. of water. These findings were interpreted as demonstrating a partial subarachnoid block. The fluid, itself, was clear, contained 4 cells and was normal serologically and otherwise. In the course of a few days following the puncture, the paraplegia became quite complete. Admitted at that time to the Graduate Hospital (10-16-'37), the following neurological abnormalities were found: A complete spastic paralysis of both lower limbs, a constant level at the sixth thoracic dermatome for all forms of sensation, a relaxed anal sphincter and retention of urine.

A spinal puncture, repeated, failed to reveal any evidence of block as was previously found. Lipiodol introduced intrasubarachnoidally was not interrupted at any level, as visualized with the fluoroscope; it was noticed, however, that columns of oil were always separated from each other in the midline in the thoracic region.

Repeated physical examinations and roentgen studies of the vertebrae, lungs and gastro-intestinal tract did not indicate the presence of a new growth.

On November 1, 1937, Dr. F. C. Grant removed the laminae of the first to the sixth thoracic vertebrae and exposed an

epidural tumor lying at the level of the third thoracic vertebra. This tumor appeared to surround the cord completely; it did not involve the bone and was readily stripped from the dura. The part of the lesion which was posterior and posterolateral was removed, but no attempt was made to reach that part of it which lay anterior to the cord. The dura was not opened. The histopathological diagnosis was undifferentiated carcinoma.

Following the operation, the patient received a course of deep x-ray therapy. No improvement was noted. He was discharged from the hospital on December 8, 1937.

At home, in another town, about a month later, a nodular growth, about the size of a pea, was noticed on his right upper eyelid. This was hard and attached to the overlying skin. It grew to the size of a hazel nut in the course of a week. A good portion of the tumor was removed, but, since it extended well back into the orbit, no attempt was made to take it out *in toto* in such a debilitated patient. Sections of this tumor, examined microscopically, proved to be identical with those of the epidural lesion.

During the next few weeks, the patient became progressively cachectic. He was mentally very dull and seemed to suffer no pain. A choked disc of 3 diopters developed in each eye soon before he died on March 29, 1938.

Comment

It is of interest to note that despite the extensive annular infiltration of the cord and the existence of a sharply demarcated transverse lesion there was no evidence of a subarachnoid block, even when studied by lipiodol. The operation was undertaken because of the futility of doing nothing. Also in this case there was no involvement of the vertebrae, which is usually the case in carcinoma in relation to spinal cord involvement. However, one of us (J.C.Y.) has observed another case with extensive involvement of the meninges from carcinoma of the lungs in which there was no subarachnoid block and in which there were no metastases to the vertebrae and in which, in addition, there was evidence of meningeal irritation. It is to be remembered, of course, that disturbances of function

including transverse lesions of the spinal cord need not be due to compression, *per se*, of the tumor, but that symptoms are frequently due to circulatory disturbances, particularly, interference with the venous return from the spinal cord.

Infections of the Spinal Epidural Space

INFECTIONS of the spinal epidural space associated with tuberculous cavities of the vertebrae are well known and need not be considered here. Hypertrophic cervical pachymeningitis and other forms of luetic involvement of the dura are rare and usually present no difficulties in diagnosis. Other infectious processes of the epidural space are also relatively rare. Browder and Meyers (5) collected 203 cases from the literature and added 7 of their own. The first case was reported in 1820 by Bergameschi (6). Of the total 210 cases 156 were classified as acute, 2 as subacute and 52 as chronic forms of the disease. The course of the acute cases is exemplified by the following report:

Case III

W. H., aged 38, clerk, previously in good health, developed, in August 1937, following a superficial laceration, an infection in the left lateral wall of the abdomen. It was incised but was extremely sluggish in healing, so that it was not entirely cleared up one month later. At that time (Sept. 1937), the patient began to complain of persistent low back pain which could not be relieved by the ordinary methods of treatment. It was noticed that the pain was aggravated by coughing and straining. After ten days of this pain, which was becoming increasingly severe, retention of urine developed and the patient had to be catheterized. On the next day, he experienced numbness and weakness in both lower extremities.

With the exception of the involvement of the nervous system, the examination of the patient at this time revealed no evidence of organic disease. The presence of a recently healed infected wound in the left loin was noted. The patient was mentally clear. A neurological examination disclosed the following abnormalities: Rigidity of the neck and a Kernig sign, bilaterally, absence of all

abdominal reflexes, except of the left upper, relaxation of the anal sphincter, complete paralysis of both lower extremities, abolition of the deep reflexes in the right lower limb and of the Achilles reflex on the left; hypalgesia extending sharply to the level of the ninth thoracic dermatome on the right, and the tenth thoracic dermatome on the left; appreciation of heat and cold was abolished to a point two segments below the level for pain. Vibration and position senses were markedly diminished in the lower extremities.

Lumbar puncture showed an incomplete block. The spinal fluid contained 100 polymorphonuclear leukocytes. The patient's temperature was 100° F.; the white blood cell count was 14,000.

A diagnosis of spinal epidural abscess was made and, in accordance with the sensory loss, the location was suspected to be at the level of the 6th or 7th dorsal vertebra. Laminectomy performed by Dr. Robert A. Groff at the Graduate Hospital revealed an epidural collection of thick pus in the neighborhood of the 7th and 8th dorsal vertebrae. The spinous processes and the laminae of these two vertebrae were found to be necrotic. Adequate drainage was instituted; the wound was not closed. The study of the pus disclosed the existence of staphylococcus.

The period of convalescence following the operation was stormy. Pyelocystitis developed for which it was necessary to employ tidal bladder irrigation. At one time, osteomyelitis of a rib adjacent to the laminectomy was suspected. However, after a month, the temperature subsided and tended to remain normal and the patient began to recover both the use of his bladder and of his legs. Today, he is able to walk remarkably well without the use of a cane. He has full control of his bladder. He exhibits at this time a partial Brown-Séquard syndrome, having more weakness and spasticity in his right lower extremity but considerably more loss of pain sense on the left.

Comment

The diagnosis in this case was relatively easy: there was evidence of a rapidly developing transverse cord lesion with compression, accompanied by

signs of infection with a history of an antecedent suppurative lesion in the abdominal wall, followed by root pains and low backache. The level lesion and the subarachnoid block were of considerable importance in the decision to operate at once, even though the signs of marked meningeal irritation and the pleocytosis suggested a diffuse meningitis.

The *acute epidural abscesses* are always secondary to an infection elsewhere. The commonest primary causes include furuncles in various parts of the body but not a few cases are associated with upper respiratory infections, localized infections in other regions of the body, pneumonia, and blood stream infections, and some are probably precipitated by trauma (5). By far the commonest organisms found are the *Staphylococcus aureus* and *albus*, the *Staphylococcus aureus* being the most frequent. Only rarely are other organisms reported.

There are probably two main modes by which the spinal epidural space may be invaded: (a) By direct extension from an infection adjacent to the vertebral column; (b) By a hematogenous route from a more remotely situated focus of infection. There is some evidence that the second mode of invasion is associated primarily with metastatic vertebral osteomyelitis with subsequent spread into the spinal epidural space. In our Case III, there was osteomyelitis of the spinous processes and of the laminae at the level of the epidural abscess.

The clinical picture is fairly characteristic. It consists of a history of a previous infection, pain in the back, root pains and finally spinal cord involvement with a level lesion. Lumbar puncture reveals evidences of a subarachnoid block. In our case as well as in two cases reported by Browder and Meyers (5), there were evidences of meningeal irritation.

It is quite obvious that an acute spinal epidural abscess is an emergency and calls for prompt surgical intervention. This is best emphasized by noting that in 71 tabulated acute epidural abscess cases (5), 28 terminated fatally.

The *chronic spinal epidural infections* are not so well defined. For the majority of cases the pathological picture is one

of a non-specific granuloma. In this connection the pathological findings described as epidural ascending spinal paralysis (Spiller's syndrome) discussed by Fay (7) are of interest. Based on two cases reported by Spiller (1902, 1911) and three cases which came under Fay's observation, the latter worker concluded that this condition is a subacute and chronic thrombophlebitis involving the meningeoarachnoid veins. In two of Fay's cases there was a history of injury and in the third the condition appeared to have followed the extraction of a tooth.

It is very likely that the pathogenesis of these cases is not unlike that of the acute epidural abscess. Clinically the picture is less clearly defined but in the main presents evidences of cord compression. The treatment is surgical.

Discussion

THE spinal epidural space is a region often not considered. The lesions occurring in this space are varied but the early diagnosis of some of them is of extreme importance for therapeutic reasons. This is particularly true of the acute spinal epidural abscess where early interference avoids invalidism and even death.

The final diagnosis of a spinal epidural lesion depends on operative exploration. The existence of spinal cord compression and symptoms pointing to a definite level accompanied by evidences of spinal subarachnoid block are constant findings in well advanced cases. In one of our cases there was no evidence of block by the ordinary hydrodynamic studies and even by the injection of lipiodol. For therapeutic reasons it is undesirable to wait until the patient gives evidences of a complete or nearly complete transverse myelitis due to compression. It is desirable to make a diagnosis before the cord is seriously damaged or, as in the case of the epidural infections, before the subarachnoid space is invaded by organisms.

Particular attention is called to the significance of the root pains which are frequently present early in extramedullary lesions including epidural lesions. They were present in all three of our cases. Root pains by reason of their character and distribution should not be confused with pains of other origin in

the majority of cases [Yaskin and Patten (8)]. The presence of bilateral root pains should arouse the suspicion of an extramedullary lesion. It is then extremely important to inquire as to possible etiological factors, more particularly furuncles, acute and chronic infections in various regions of the body, trauma, the existence of a possible primary malignant focus elsewhere in the body, Hodgkin's disease and leukemia.

Pain in the back should always receive neurological evaluation. Pain in the back is more common in cord tumors and other space-taking lesions about the spinal cord than is usually suspected [Elsberg (9) and others]. The pain need not be over the site of the lesion, as was also demonstrated in all three of our cases. It is not at all unusual to find low back pain with lesions in the dorsal region.

Evidences of meningeal irritation as manifested by rigidity of the neck and Kernig signs were present in two of our cases and were observed in other cases by one of us. Meningeal irritation does not occur in spinal cord tumors other than those of the epidural space as far as we know. The existence of this sign should, therefore, arouse a suspicion that the lesion is in the epidural space.

In the presence of root pains, low backache, and evidence of meningeal irritation, even in the absence of other definite neurological abnormalities, an epidural lesion may be suspected and the following investigations should be instituted: (1) X-ray of vertebral column; (2) lumbar tap with careful hydrodynamic studies; (3) detailed study of spinal fluid, and, if necessary (4), myelographic or lipiodol studies.

A systematic approach as presented may disclose not only neoplasms and epidural infections, previously discussed, but may help in the diagnosis of such conditions as unsuspected neurosyphilis, Pott's disease, spinal extradural cysts (10), and protrusions of intervertebral discs (11). The discovery of the last-named condition is of great importance for the relief of some cases of intractable pain and prevention and relief of serious disability.

Summary

LESIONS of the spinal epidural space are more common than is generally supposed and include primary and meta-

static tumors, suppurative infections and granulomas, thrombophlebitis of the meningo-rachidian veins, extradural cysts, protrusion of the intervertebral discs and infiltrations associated with leukemia and Hodgkin's disease. Three operated cases are reported: the first, primary sarcoma; the second, metastatic carcinoma; and the third, acute epidural abscess.

Most of these lesions, by reason of direct compression or interference with the blood supply, lead to irreparable damage to the spinal cord. Early diagnosis is, therefore, necessary, especially in the acute suppurative infections in which there is rapid compression and the additional danger of inflammation of the meninges and cord.

The early suggestive symptoms of epidural lesions include low back pain and root pains, which are common to

intra- as well as extra-dural lesions. Signs of meningeal irritation were observed in a number of cases of epidural lesions and are highly suggestive of the localization in that space.

The combined occurrence of low back pain, root pains and evidence of meningeal irritation (even before evidence of spinal cord compression appears) calls for inquiry as to antecedent infections and search for coexisting ones and other etiological factors; x-ray studies; spinal manometric studies; detailed examination of the spinal fluid and, if necessary, lipiodol or air studies of the spinal subarachnoid space. A systematic investigation of this sort, in addition to complete and repeated neurological examinations, will, in the majority of cases, disclose evidences of an extradural lesion permitting timely operative interference.

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1832 SPRUCE STREET.



X-RAY THERAPY IN DERMATOLOGY

IN SPITE of the large number of new skin diseases that have been described from year to year, the indications for roentgenotherapy have, if anything, been restricted. With an increasing knowledge of the etiology and pathogenesis of various disorders there has been a tendency to restrict the x-rays to those diseases which cannot be cured with simpler dermatologic measures. With the popularization of other methods of physical therapy, such as radium, ultraviolet, electro-desiccation, and the like, and newer methods of internal and external treatment, there are now many diseases formerly treated with x-rays which can be better treated with other agents.

E. P. Zetser, M.D., in *Archives of Physical Therapy*, July, 1938

THE INTERPRETATION AND MANAGEMENT OF CERTAIN *Hard of Hearing* PATIENTS

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IF it were possible to make the average deafened patient understand that his infirmity probably started in childhood and that no miracle can be performed by the competent otologist, no doubt we would have better cooperation and be able to accomplish a great deal more than we do. Unfortunately, the patient who is hard of hearing expects the specialist to improve his hearing, sometimes hoping that he can bring it back to normal, in a month or two of treatment. He is asking the impossible.

In a morning's run of practice, I, like many other otologists who are interested in the hearing problem or the problem of the deafened, see many cases which cannot be improved in any way unless a most painstaking analysis of the individual case is made. A number of facts are apparent and should be considered of great importance. Among these are:

1. The majority of hard of hearing patients have had impairment in hearing for some years before they present themselves for examination. Many times they do not know that such impairment was present because it did not interfere with their daily routine. Frequently one is told that deafness began only two to three years before examination and gradually, from that time on, the hearing became worse. As a matter of fact, close inquiry will reveal that some pathological condition in the ears took place in childhood, such as a discharge from the ears during the course of an exanthematous disease.

2. Many patients present themselves with definite pathologies in the nose and throat which have to be corrected before anything can be done to improve the hearing. A chronic disease of the sinuses, with discharge of mucopus into the nasopharynx, will set up a pathological condition of the Eustachian tubes which can never be relieved until the sinus condition is properly corrected. It is self-evident that an enlarged adenoid, not a frequent condition, should be removed. Diseased tonsils are the worst offenders. The size of the tonsils makes little difference. A small, buried tonsil which gives no throat symptoms not only creates a local irritation but the absorption of pus into the system tends towards a lowered resistance of the patient. Even if the tonsils look innocent, they should be removed; for it is our common experience that if an acute infection later occurs in these tonsils, the hearing impairment will become considerably worse and remain so.

NO thorough examination of the deafened patient can be made unless one is able to inspect the nasopharynx carefully and thoroughly through the nasopharyngoscope. In this way one is able to inspect the mouths of the Eustachian tubes and the surrounding tissues. Any information obtained is of the utmost importance. In former papers, I have referred to a number of pathologies. Of most importance are an edematous condition of the mucosa of the tube, an infiltration of lymphatic tissue into the tube and surrounding tissues, adhesions in the fossae of Rosenmüller behind the tubes and, finally, polypoid conditions of the posterior tips of the inferior turbinates.

Naturally one can handle these problems locally in many cases. Adhesions in the fossae of Rosenmüller may be broken down with the finger, a procedure which may have to be repeated for adhesions frequently reform. Polypoid tips of the inferior turbinates may be snared off. Lymphatic infiltration of the mucosa may be effectively treated by deep x-ray therapy.

BUT there are many other cases in which the patient is systemically out of order and the utmost keenness is necessary to find out what the basic trouble is. It may be a hidden focus of infection, in the appendix, gallbladder, intestines or kidney. One of the worst cases of deafness I ever encountered was in a doctor who had a chronic cholecystitis. When his gallbladder was removed, his hearing came back to normal. Of most importance are disturbances of the internal secretions and vitamin deficiencies. The obese patient has too little thyroid; the overgrown has too much pituitary and so on. A basal metabolism rate must be determined in these cases. The vitamin deficiencies are not so easy to discover but many hard of hearing patients lack vitamin B₁ or vitamin C. Many such patients, particularly the younger ones, often complain of constant lassitude which results in what is usually called auditory laziness.

3. The psychic factors in deafness are always of great importance but are seldom given the consideration they deserve. Most of us appreciate the changed mentality of hard of hearing patients, the resentment they feel against their infirmity, the irritable, nervous disposition that most of them have. But the average otologist does not attempt to cope with these conditions and it is a common experience that such patients become definitely worse if they are sent to a nerve specialist or psychoanalyst. This psychic factor is one with which I am so frequently confronted and for which something has to be done that I cannot resist dwelling upon it. One young woman was completely deafened because she had a hate complex against her own mother. Removed from the parental influence, her hearing came back to normal and has remained normal.

Another woman, beyond middle age, had an unsympathetic husband who had to be won over before her hearing could be improved. Another woman had had an automobile accident which shattered her nerves. She could not be made to hear until suitable systemic treatment was given. Another patient, a man of thirty odd years, lost his hearing almost completely during the 1929 Wall Street panic. As a broker, he had made money at the time when others were losing their fortunes but his nervous system had become completely deranged, with the result that he was considerably deafened. Appropriate systemic treatment was given until his hearing was restored to normal. Perhaps these are the types of cases which were formerly considered hysterical. But hysteria has nothing to do with it.

4. Although there are certain types of deafness which are due to lesions in the internal ear and in the auditory nerve itself, the majority of hard of hearing patients are suffering from some form of conductive deafness. In other words, the middle ear is not functioning properly and, in nine cases out of ten, this is due to an improper ventilation of the middle ear. Unless there is some real pathology in this part which cannot be overcome, the causative factor is in the Eustachian tube, which becomes so narrowed or stenosed that an insufficient amount of air gets into the ear and there is no active movement of the ossicles.

IN former years, we were given to understand that in most cases of deafness there was an observable retraction of the drum; often there were adhesions between the ossicles and a thickened condition of the membrana tympani could be seen. Such factors are of little importance. In the first place, one is often surprised to find that the patient hears better in the ear in which there seems to be most pathology; in the second place, by proper examination through a magnifying otoscope, attached to a massage apparatus, in the majority of cases one will see that there is normal motility of the drum in spite of the findings. In certain cases, there is almost a complete relaxation of the drum.

Considering the importance of the

proper patency of the Eustachian tube, in the majority of cases coming to our attention, we attempt to make a determination of the condition of the tube and institute proper treatments according to our findings. It is imperative to stress the fact that massage of the middle ear by means of a Eustachian catheter through a tube which is pathological is worse than useless. One thus puts the cart before the horse. What is essential is to bring back a normal patency to the tube if possible and this can only be done by attention to general physical conditions, correcting definite pathologies in the nose, throat and nasopharynx and by dilating the Eustachian tubes themselves with suitable applicators and bougies. When one has mastered the technic of such instrumentation, he will be agreeably surprised at the results obtained.

It is always interesting and instructive to analyze a large number of cases and then tabulate results. I have done so in many papers dealing with this subject. But I can do far better, to illustrate the points enumerated above, by selecting certain cases which have come into the office within the past few weeks because they indicate what is seen in the common run of practice.

Case 1. A young man, living in Lake George, consulted us. His history of deafness was of long standing. A test of his hearing with the audiometer indicated considerable loss. I was inclined to feel that an electric hearing aid was absolutely necessary. We found both Eustachian tubes completely closed and began a course of dilatation of the tubes. At the end of two weeks his hearing acuity had increased considerably. Unfortunately this will not last because he cannot continue the treatments at home.

Case 2. A woman of middle age who, two years ago, had been in an automobile accident, came to us with a complaint of severe deafness and a marked tinnitus in both ears. An audiogram showed that her hearing was normal. No pathology could be found in the nose or throat. She is being given short wave diathermy treatments to her ears in the office and was instructed to take cap-

sules containing vitamins B and C. Any other local treatment to her ears will be useless.

Case 3. A young woman, a stenographer, consulted us because she finds it hard to take dictation. She is thin, anemic, overworked, nervous and suffers from insomnia. There is no evident pathological condition in her nose, throat or ears. A test of her hearing shows a moderate loss. She is suffering from "auditory laziness." In other words, her hearing mechanism needs stimulation the same as her other nerves do. Once her general condition is brought up to par, her hearing will improve.

Case 4. About six months ago, a young man who consulted us about his deafness was advised to have his tonsils removed. A tonsillectomy was performed two weeks later. A hearing test at a six months' interval shows a marked improvement. A similar result was obtained in another young man who had a polypoid condition of the posterior tips of his inferior turbinates, which were removed.

Case 5. This young school teacher was fearful that she would lose her position because of her deafness. A very definite stenosis of both Eustachian tubes was found. She was advised to have deep x-ray therapy to her nasopharynx and to return to us after the treatments were finished. Since then we have attempted to dilate her Eustachian tubes. The right one is well opened, the left one still almost completely closed. Her hearing has improved sufficiently for her to continue with her work.

Case 6. A young woman librarian consulted us about two months ago. An edematous condition of both Eustachian tubes was observable. Suitable dilatation and treatment of the tubes was instituted. A test of her hearing one week ago shows an improvement of over thirty per cent.

Case 7. A middle aged woman who has to work hard for a living and whose nerves are on edge most of the time began treatments over a year ago. The

stenosis of her Eustachian tubes was overcome but there was little improvement in hearing. I urged her to wear an electric hearing aid with which she could hear very well. She refused to do so. I was so much interested in her case that I bought an instrument for her. She would wear it to our office but at no other time and finally concluded that I did not wish to help her by medical treatment. A few days ago, she brought back the instrument and told me she was going to try some other doctor. This is the kind of case which cannot be helped because the patient resists any type of treatment suggested to her.

Comments

It is surprising that with so many deafened patients consulting otologists, frequently a thorough analysis of a case is not made. Deafness cannot be improved by massaging the drum through a Eustachian catheter. Each case must be ana-

lyzed by itself. From the above citation of cases, one can see how important it is to discover etiological factors outside of the ears. Although by no means all cases can be improved, we have been much encouraged by the results we have obtained.

Conclusions

1. Deafness usually results from some affection of the ears in childhood although patients frequently state that the onset was only a short time before consultation.
 2. Each case of deafness must be treated as a separate entity and no patient should be treated along empirical lines.
 3. Etiological factors in the sinuses, nose, nasopharynx or general system must be corrected.
 4. Particular attention must be paid to the pathologies in the Eustachian tubes.
- 136 EAST 57TH STREET.



GALLSTONES AND OPERATION

ALTHOUGH gallstones can only be removed by operative treatment this does not of necessity mean that the mere knowledge that they are present is a clear indication for operative interference. Every case must be carefully considered and the risks of operation must be set against those of the risk of leaving the patient with stones in the gallbladder. To a certain extent the symptoms may be controlled by medical treatment, although there is always the risk that an acute complication may arise, and it is this risk which has to be compared with that of the operation. Manifestly with elderly patients of poor general health, whose gallstones have been either accidentally found by x-ray investigation or have only given rise to slight symptoms, an operation should be deferred.

James Walton, F.R.C.S., In *Practitioner*, June, 1938

CHRONIC CHOLECYSTITIS

THE majority of cases of chronic cholecystitis of so mild a degree and unassociated with gallstones will be either completely cured or greatly alleviated by an adequate course of medical treatment. It has moreover become manifest that in these early cases the results of cholecystectomy are not always satisfactory, so that in the case of the gallbladder the statement has been made that the more advanced the disease the more satisfactory are the results of cholecystectomy. If the infection in the gallbladder is not terminated by medical treatment it is probable that stones will soon be formed. Chronic cholecystitis without the presence of stones will very rarely call for operative treatment and that only after the failure of prolonged medical treatment.

James Walton, F.R.C.S., In *Practitioner*, June, 1938

THE INCISION FOR

Biliary Tract Surgery

THE purpose of any intra-abdominal incision is adequate exposure for the manipulation to follow. This must not be overlooked in any discussion of the subject irrespective of any physiologic or aesthetic factors which may be involved. Habit too frequently plays the deciding role in the choice of incision, whether the ultimate aim be appendectomy, cholecystectomy, or any other of the intraperitoneal procedures.

The incisions proposed for biliary tract surgery have been exceedingly numerous. At the time of publication of Hans Kehr's "Gallenwege Chirurgie" (1913), more than twenty had been proposed, and Kehr has illustrated eighteen which he considered the most important. Since then a number of others have been proposed, which do not represent any vital change from those cited by Kehr. In discussing the choice of incision, Kehr states: "Above all things, I require from a good abdominal incision that it provide adequate exposure of the biliary tract . . . Here we require large incisions, not too large, but large enough." Incidentally, Kehr's incisions were considered phenomenally large by many of the observers who saw him operate during his visit to the United States.

Keeping in mind that the incision must first provide adequate exposure of the biliary tract, the decision as to the type of incision to be employed must first take into consideration the gravity of the procedure which is to follow. Obviously, the requirements for cholecystotomy are more easily fulfilled than those for reconstruction of the common duct. The next element to be considered should be the shape of the costal arch. A transverse incision in the individual with a narrow subcostal angle is no

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more appropriate than a longitudinal incision in the patient whose subcostal angle approaches 180 degrees. One might say that a choice of incisions exists only in those individuals whose subcostal angles range between 75 and 150 degrees. The subcostal angle is not in itself the sole determinant, but it is a rather good index of the general shape of the intra-abdominal cavity. The blood and nerve supply of the abdominal wall provides the next factor to be considered. As in the case of elective incisions anywhere throughout the body, we strive to interfere as little as possible with nerve and vascular supply. The rate of wound healing and the incidence of postoperative hernia are both determined to a large extent by the interference or non-interference with blood and nerve supply. Important as this is, however, the need for adequate exposure is preëminent.

AT the present time, the incisions in common use are either longitudinal or transverse, or rarely, combinations of the two. The longitudinal, "split" rectus incision is by far the most popular. Less popular in this country is the paramedian incision, in which the medial edge of the right rectus muscle is retracted medially with the peritoneal incision placed lateral to the normal position of the medial edge of the right rectus. Least common, in this country, is the transverse incision in which the rectus is cut across, rather than split lengthwise. Other things being equal, I consider the advantages of the incisions to be inversely proportionate to their popularity.

From the Surgical Service of the Buffalo City Hospital.

The "split" rectus incision possesses many advantages. It is easily and quickly made. It may be prolonged upwards or downwards almost without limit. In many instances, the blood and nerve supply to the medial portion of the muscle can be preserved. In the average case, adequate exposure can be obtained without undue prolongation of the incision or too strenuous retraction. The disadvantages are equally numerous, and to my mind more serious. The blood and nerve supply to the medial segment is frequently seriously compromised. This in turn contributes to the incidence of postoperative evisceration, and later postoperative hernia. The effect of the incision upon the medial segment of muscle can often be demonstrated during subsequent operations in the same locale. Walzel, who was for years an advocate of the transrectal incision, said: "We have been able to demonstrate frequently, during a recidive operation, that the transrectal incision carried out without consideration of the nerve supply leads to complete atrophy of the medial muscle bundles. The muscle red has disappeared; in the place of the previous muscle fibers we find a gray-red flat mass of scar in which bundles of muscle can be recognized only occasionally. For this reason, the danger of hernia after this incision is greatest, and is frequently observed; naturally this is placed in the background when an *indicatio vitalis* for operation occurs." We have confirmed Walzel's observation concerning muscle atrophy on several occasions, and the increased incidence of postoperative hernia is common knowledge. Where this incision is unwisely chosen in a short and wide torso, it is often necessary to prolong the incision far beyond the normal, or add to it, at the lower angle, a horizontal incision through the belly of the rectus.

THE paramedian, muscle-retracting incision possesses most of the advantages of the split rectus muscle with fewer disadvantages. The nerve and blood supply to the rectus is uninjured and the incision is capable of equal prolongation. Access to the gallbladder is not so easy, and strenuous retraction is more often required. This incision has another drawback in common with the

muscle-splitting incision: It is difficult to suture when the anesthesia is insufficient, and the patient is straining.

There are disadvantages to the subcostal transverse incision. It is impractical with a narrow subcostal angle. More time and care is required for its performance, and the bleeding encountered is appreciably greater than in the longitudinal incisions. It is at times difficult to deliver the appendix with this type of incision. The advantages far outweigh the disadvantages, in my opinion. In almost every case it is possible to preserve the tenth intercostal nerve and artery, which are usually encountered at the lower pole of the incision. The muscles above and below the incision are firm and healthy after healing has taken place. The objection that the rectus is actually severed is of little importance, for the cut edges are brought together by suture of the anterior and posterior sheaths, and the resulting scar resembles an additional tendinous inscription. The dangers of postoperative evisceration are extremely slight, as are the possibilities of postoperative hernia. In a series of 148 cases which had been followed, Walzel found two small herniae. These cases had all been drained. The great advantage, and one which outweighs all of the others, is that the exposure of the gallbladder and bile ducts is unexcelled. Those who are unacquainted with the transverse incision must, in truth, see it to appreciate the exposure which it provides. In many cases the liver may be brought partly out of the wound, making the bile ducts almost extraperitoneal. The viscera are easily packed out of the way with a minimum amount of retraction. The stomach is easily examined, and most of the operative procedures on the stomach can be performed without difficulty, should the occasion arise. Finally, closure is accomplished with ease.

SO far, the discussion has been confined to the choice of incision in "primary" operations on the biliary tract. Where this field has been the site of previous operation, the problem is somewhat different. Where, for example, choledochotomy is to be performed, following a previous cholecystotomy, the probability of

—Concluded on page 124

TREATMENT OF

Varicose Veins

WITH TWO PER CENT SODIUM RICINOLEATE

II

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IN a previous communication¹ experiences with injections of a solution of two per cent sodium ricinoleate (soricin) were reported in a series of fourteen patients.

In the past three years at the Varicose Vein Clinic of the Alfred Benjamin Dispensary, two per cent sodium ricinoleate (soricin) has been used exclusively in the treatment of several hundred cases of varicose veins of varying degree with excellent results in all cases.

Two per cent soricin has been found to be sufficiently active to produce adequate sclerosis, without danger of recanalization.

Satisfactory results have been obtained with a minimum number of treatments, a minimum amount of solution and danger of slough, as well as a minimum amount of pain and inconvenience to the patient as compared to any other solution previously used. The age and physical condition of the patient, and the size and extent of the varicosity are the guiding factors as to the method of injection. The technique described by H. O. McPheeters in his book *Varicose Veins*, and in many papers, is used in my clinic. Ligation of the great saphenous vein has not been done in any of the cases treated, and several of the cases treated in the clinic had previously been ligated with unsatisfactory results.

The clinic is held once each

week, and patients who were working or debilitated, or those with small veins, received small amounts (2 cc.) at each injection. Patients who had large and extensive veins, some with ulcerations, and who were not

employed, received injections up to 6 cc.

IN the experience of the author, two per cent sodium ricinoleate approaches the ideal solution for the treatment of varicose veins. Injections of two per cent sodium ricinoleate caused less pain, had greater sclerosing effects, and produced better results than had been experienced with any other solutions. In none of these cases was there confinement or disability of the patient; all were ambulatory during the entire period of treatment. A small slough outside the vein was observed in only one patient, and in this case the healing was rapid, and took place in a much shorter time than sloughs produced with other solutions. The largest single dose given at one injection was 6 cc.; in several instances that amount was given at the first treatment.

Conclusions

1. After three years' experience in the Varicose Vein Clinic of the Alfred Benjamin Dispensary, two per cent sodium ricinoleate was found effective, non-toxic in the amounts used, and produced no



Case No. 1 D. G.

Extensive varicose veins of both legs with ulcers on right ankle. Twelve treatments, 26½ cc. soricin.

Case No. 2 J. B.

Six treatments, total amount of soricin 16 cc.



untoward after-effects. The patients remained ambulatory during treatment and the injection caused less pain than had been experienced with other types of solutions such as quinine hydrochloride and





urethane, sodium morrhuate and varisol.

2. Repeated injections of two per cent sodium ricinoleate in small divided doses have been found superior to the single injection of large amounts, however, 6 cc. of two per cent sodium ricinoleate can be injected at one time without harm.

3. Two per cent sodium ricinoleate approaches the ideal sclerosing agent.

Bibliography

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818 PROFESSIONAL BUILDING.



Case No. 3 R. E.

Extensive varicose veins of left leg with ulcer. Three treatments. Total 9½ cc. of soricin used.

Case No. 4 L. J.

Extensive varicose veins of the left leg with a large varicose ulcer of left ankle. The great saphenous vein was unsuccessfully ligated in June, 1937. This patient presented himself at my clinic on July 15, 1938 and the first photograph shows the condition of his leg at that time. The second photograph was taken August 26th after he had received four injections of soricin—a total of 18 cc.



MEDICAL JURISPRUDENCE

HEALTH INSURANCE OR PUBLIC MEDICINE

Which?

JOSEPH SLAVIT, M.D.
Brooklyn, N. Y.

THE problem of health is one of the major issues today; some solution for the problem of medical care must be sought. The medical profession must face this problem and find a solution in a logical, sane and scientific way, for if they will not help in solving the problem, it will be solved for them, and perhaps in a way they will not like.

The investigations of such organized agencies as the Committee on the Costs of Medical Care and various State investigations have demonstrated that the medical care our people are receiving is entirely inadequate despite the high standards set up, the advancements and discoveries of scientific medicine. The problem confronting us, therefore, is that we have a population that needs attention when sick or injured, and also needs "preventive medicine"; on the other hand, we have the profession that is trained, educated and qualified to render this medical care, yet is denied the opportunity of giving such care adequately under existing economic conditions, while some of the profession are denied an opportunity of earning a livelihood through the exercise of their professional abilities. The situation must be cured; it cannot be ignored.

There are four general types of solutions offered. The first two groups or types are "really different ends of the

same stick." Both are voluntary methods. One is a voluntary method on the part of the medical profession, which takes the form of group practice; the other is a voluntary method on the part of "consumers," i.e., those needing medical care, who band themselves together to secure the services of physicians. There have been many attempts at

various forms of voluntary plans of both types; but in most cases they have failed. There are "some outstanding successes," such as the Ross-Loos system in California, or the Mayo Clinic in Rochester or the Battle Creek Clinic, but as a rule most of these voluntary group methods do not succeed. From the economic standpoint, the prime consideration of any physicians' group is the physician's interest; and the prime consideration of the consumers' group is the consumer's interest; hence very often friction develops. The Wayne County Plan or Michigan plan was at first hailed even by the medical profession as offering a solution of the problem, yet that plan has not been a success. In medicine if "one or two hundred remedies" are proposed for a disease, it is evident that there is no remedy for the condition. So with this problem of medical care. Because so many plans are proposed, it is evident that no one plan has solved the problem. Voluntary plans, if they succeed, are at best only a solution for a part of the people, or a group of physicians, who take part in the plan. In almost every country where they have adopted volun-

An Abstract. The original article was read before the Society of Medical Jurisprudence on February 14, 1938, at The New York Academy of Medicine, New York, N. Y.

tary health insurance, the system has been gradually given up and other methods adopted.

THERE is a great deal to be said for the principle of compulsion. When we have compulsory vaccination we eliminate smallpox; when we stop compulsory vaccination, we are apt to have outbreaks of the disease again. We have compulsory education and have practically eliminated illiteracy. So there is some advantage in compulsion, and some form of compulsory health insurance is the third solution of the problem offered. The compulsory system of health insurance has its merits, as well as its defects. One merit is that for those who are in the health insurance system, medical care is provided under compulsion, because they are compelled to pay for it, whatever the method prescribed for these payments may be. Dr. R. G. Leland, head of the Bureau of Medical Economics of the American Medical Association, has stated that: "Conditions under insurance in most countries are superior to those existing before it." Compulsory health insurance, he shows, did bring medical care to people who were not getting it before. Compulsory health insurance, if applied universally and generally to the entire population, might be a solution for the problem. But it is limited in its application under present conditions—limited to a section of the industrial population employed in plants where there are several employees (at least three or five or more, according to various laws). The farming class is almost always excluded from modern systems of compulsory health insurance, as are also domestics, small shopkeepers and the professional classes. Such restrictions limit the value of compulsory health insurance. Another defect in compulsory health insurance is that it is always tied up with cash benefits, and this does not necessarily solve the medical problem. Then, too, compulsory health insurance leaves the present system of medicine untouched; and it may complicate or aggravate conditions by the form of the "panel." A panel system and a system of private practice cannot be successfully worked side by side; one or the other must suffer.

If health insurance does not solve the

problem of providing medical care in this country, then some other method must be found. There is only one other plan available and that is the system of public medicine. Public medicine, in fact, is already here. It is a matter of extending the present practices, agencies and institutions to make the system of public medicine more complete to provide medical care for all the people. It is not foreign, or alien, or a system "brought over from England or Germany." It is in operation now in the United States, in every town, every city, every State and in the Federal Government. We have many public medical services and know exactly how they work.

PUBLIC service is based on a simple principle; there are no contributions and no special funds; the institution is supported in the same way as all public services, from funds in the public treasury—by taxation. Those who advocate health insurance claim that it avoids taxation; but taxation is employed merely in a different way by contributions or deductions from wages or payrolls; this is as much a tax as other "government-enforced" payments. We must make up our minds whether we want to have medical service for all, and if we do we must pay the bill, because a bill there must be, no matter how we propose to render the service.

Under public medicine, doctors would work on a salary system, but the salary would be assured, and there would be opportunity to rise and qualify for higher things as in the Public Health Service today. The solution of public medicine providing medical care for all appears to be the only logical one—a solution we "are already partially embarked upon." Many of us do not realize how far we have already gone along this road. The last report of Commissioner Goldwater of the Department of Hospitals shows that over half the medical service rendered in the City of New York through hospitals and ambulances was by municipal and county, i.e., government owned and operated, institutions. Two-thirds of the beds in the United States hospitals are government owned and operated beds. In New York City, the Health Department is dividing the city into 35 health centers, through

which it is going to spread out all its activities.

ANOTHER point to be remembered is that the line of demarcation between preventive and curative medicine, as far as public health service is concerned, is rapidly breaking down. Even now we are going into the field of curative medicine from the public health standpoint in tuberculosis, syphilis, cancer, nervous and mental and chronic diseases. The medical profession is rendering much of the service gratis in hospitals and clinics; they say that they oppose a free pub-

lic service, yet they are giving it all the time. The cost of medical care must be met; it cannot be given away free at the expense of the medical profession. Just as the people of the country must be provided with adequate medical care, so the medical profession and the workers who render this service must be adequately provided for, so that they may go on and render good service. With a properly organized public health service, preventive and curative, both problems, for the public and for the profession, are solved.



BILIARY TRACT SURGERY

—Concluded from page 118

dense adhesions must be considered, although the operator may later be delighted by their absence. The problem of adequate exposure almost demands that the free peritoneal cavity be entered at a point remote from adhesions. If the incision is made over, or parallel to, the previous incision, the operator is almost certain to encounter a wall of adhesions along his entire incision. On the contrary, if the new incision crosses the old one at as close to a right angle as possible, adhesions will be encountered over a relatively small area of the new incision. With free space at either angle of the wound, it will be found that the existing adhesions can be handled with much less effort and trauma. Thus, if

the initial incision has been transverse, the second should be longitudinal, whether paramedian, transrectus or pararectus, according to the fancy of the surgeon. Correspondingly, a transverse incision is indicated where the first incision has run longitudinally. I have followed this procedure with considerable satisfaction.

TO summarize, the choice of incision for biliary tract surgery should consider the magnitude of the operative procedure and the topical anatomy of the patient's abdomen. Whenever possible, the transverse subcostal incision should be used, because of its many advantages. The choice of incision for reoperation upon the biliary tract is dependent to a large degree upon the type of incision previously used.

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468 DELAWARE AVENUE.



BASAL ANESTHESIA

DURING recent years, all efforts to improve and extend surgical anesthesia appear to have two fundamental aims; *first*, to spare the patient the psychic disturbance, the fear and excitement attendant upon the induction of narcosis; *second*, to shorten the inhalation anesthesia as much as possible, if it cannot be entirely obviated.

F. A. Colmers, M.D., in *Anesthesia and Analgesia*, July-August, 1938.

CANCER

CHARLES WILLIAM HENNINGTON, B.S. (Rochester),
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EXECUTIVE SECRETARY, NEW YORK STATE COMMITTEE
OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

LAST year our follow-up system showed seventeen patients treated in 1933 and living without recurrence for nine years. These have now been transferred to the ten year survival list.

We have to account for twenty-three cases which are now nine year survivals, fifteen cases which are eight year survivals, thirty-one cases which are seven year survivals, and forty-two cases which become six year survivals. (See Table I.)

OF the cases reported in 1934 there was one case of cancer of the breast which was reported with a late recurrence. This patient has been under treatment with irradiation at the Strong Memorial Hospital and this year is reported as showing no evidence of disease. One case of cancer of the body of the uterus has been lost and one died of cerebral hemorrhage. There are twenty-one cases living without recurrence, now nine year survivals.

In the 1935 group, now eight year survivals, two cases of cancer of the breast have developed late recurrences and one died of cancer. One case of cancer of the cecum was transferred to the ten year survival list, and one case of cancer of the body of the uterus died of cancer. There are now eleven cases

in this group living without recurrence.

In the 1936 group, now seven year survivals, one patient with cancer of the breast died of cancer and one has been lost. One patient with cancer of the cervix has developed a recurrence. There are now thirty-one cases in this group living without recurrence. One case from the 1937 group was transferred to this group.

In the 1937 group, now six year survivals, one case of cancer of the breast has developed a recurrence and one was transferred to the 1936 group, one case of cancer of the bladder has been lost, and one case of cancer of the body of the uterus

died of metastasis to the skeletal system. To these we add this year a case of cancer of the breast treated by Dr. Shirley R. Snow, Sr., in the Genesee Hospital in 1932. There are now living thirty-seven patients without recurrence in this group.

This year we report fifty-two new cases of five year survivals. All the histological diagnoses have been reviewed by Dr. Herbert R. Brown, Pathologist to the Genesee Hospital; Dr. Istvan Gaspar, Pathologist to the Rochester General Hospital; and Dr. William B. Hawkins, Associate Professor of Pathology, School of Medicine and Dentistry, University of Rochester. (See Table II.)

The fifty-two cases were distributed as follows: Bladder, 2; Breast, 14; Cecum, 3; Cervix, 3; Kidney, 1; Lip, 2;

SURVIVALS FOR FROM FIVE TO NINE YEARS OF PATIENTS TREATED FOR CANCER

In the Hospitals of
Rochester, New York

Reported at the Fourteenth Annual Meeting of the New York State Committee of the American Society for the Control of Cancer, held in Rochester, N. Y., December 13, 1938.

MEDICAL TIMES, MARCH, 1939

Table I

	To be accounted for	Living	Dead	Lost
Carcinoma of the Breast				
1934 Group (9 years)	15	15	0	0
1935 Group (8 years)	7	6 (2)	1 (6)	0
1936 Group (7 years)	15	13	1 (6)	1
1937 Group (6 years)	17 (3)	17 (1)	0	0
Carcinoma of the Cervix				
1934 Group	1	1	0	0
1936 Group	5	5 (1)	0	0
1937 Group	7	6	0	1
Carcinoma of the Gastro-intestinal Tract				
1935 Group	2 (4)	1	0	0
1936 Group	2	2	0	0
1937 Group	2	2	0	0
Carcinoma of the Male Genito-urinary Tract				
1936 Group	2	2	0	0
1937 Group	5	4	0	1
Carcinoma of the Ovary				
1935 Group	1	1	0	0
Carcinoma of the Body of the Uterus				
1934 Group	6	4	1 (5)	1
1935 Group	5	4	1 (6)	0
1936 Group	8	8	0	0
1937 Group	3	2	1 (6)	0
*Miscellaneous Malignancies				
1934 Group	1	1	0	0
1935 Group	2	2	0	0
1937 Group	7	7	0	0

* The group of miscellaneous malignancies includes cancers of the skin and lip, and sarcomata. One of the last is a melanoma of the vulva.

- 1—One with recurrence.
 2—Two with recurrence.
 3—One case transferred to 1936 group.
 4—One case transferred to 1933 group.
 5—One case dead of cerebral hemorrhage.
 6—Dead of cancer.

Mouth, 2; Ovary, 3; Prostate, 1; Sarcoma, 3; Sigmoid, 1; Skin, 2; Stomach, 1; Testicle, 1; Uterus, 13.

IN 1933 the Genesee Hospital treated seventy-three cases of cancer and reported eleven five-year survivals, 15.06 per cent. Park Avenue Hospital treated forty-one cases of cancer and reported four five year survivals, 9.75 per cent. The Rochester General Hospital treated sixty-eight cases of cancer and reported nine five year survivals, 13.23 per cent. St. Mary's Hospital treated eighty cases of cancer and reported six five year survivals, 7.50 per cent. Strong Memorial Hospital treated 233 cases of cancer and reported twenty-one five year survivals, 9.01 per cent, a total of 495 cases of cancer treated in the hospitals of

Rochester with fifty-one survivals, 10.30 per cent.

In reporting the five year survivals from the Strong Memorial and Municipal Hospitals, Dr. Karl M. Wilson, the Chief of the Department of Obstetrics and Gynecology, writes as follows: "In addition to the examples reported as cures, we saw in my department twenty-nine other examples of carcinoma of the pelvic organs of some form. These women are now all dead. They were nearly all far advanced when they first came to the hospital. They were perhaps seen elsewhere before they landed in the Municipal Hospital in the terminal stages. Of that I cannot be sure, but I am still appalled at the number we see each year who are in a hopeless state when they first present themselves. A

few of the women in this series died of intercurrent diseases, but most of them died of the original carcinoma from which they suffered. In my opinion any-

thing that can be done to induce these people to report unusual symptoms earlier cannot fail to benefit."

Table II
FIVE YEAR SURVIVALS
Treated in 1933—Reported in 1938

Genesee Hospital:

1. Breast	Staff
2. Breast	Mitchell
3. Breast	Staff
4. Breast	Mitchell
5. Breast	Shepard
6. Breast	Sumner
7. Breast	Sumner
8. Cecum	Bidwell and Sumner
9. Stomach	Staff
10. Testicle	Paine
11. Uterus	Chapman

Highland Hospital:

1. Uterus	Simpson
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Park Avenue Hospital:

1. Breast	Swan and Dean
2. Uterus	Gage
3. Uterus	Gage
4. Uterus	A. P. Reed and Hennington

Rochester General Hospital:

1. Breast	Hutchens
2. Cecum	Prince
3. Mouth	Hutchens
4. Ovary	Stewart
5. Ovary	Quigley
6. Prostrate	Garlick
7. Sarcoma	Stewart
8. Skin	Angevine
9. Uterus	Wooden

St. Mary's Hospital

1. Breast	Percy
2. Breast	Simpson
3. Cervix	Costello and O'Brien
4. Sigmoid	Simpson
5. Skin	Rapp
6. Uterus	Hartigan

Strong Memorial Hospital:

1. Bladder	W. W. Scott
2. Bladder	W. W. Scott
3. Breast	Potter
4. Breast	McKinstry
5. Breast	Young
6. Cervix	Wilson
7. Cervix	Wilson
8. Cecum	Morton
9. Kidney	W. W. Scott
10. Lip	Young
11. Lip	Young
12. Mouth	Morton
13. Ovary	Ekas
14. Sarcoma	Pearse
15. Sarcoma	Morton
16. Uterus	Potter
17. Uterus	Potter
18. Uterus	Potter
19. Uterus	Potter
20. Uterus	Wilson
21. Uterus	Wilson



RADIUM THERAPY IN BENIGN CONDITIONS OF THE NOSE AND THROAT

THE medical use of radium is no longer a matter of conjecture. Due to the efforts of technicians as well as practitioners we are rapidly approaching an absolute technic in the application of this agent.

Malignancy of the upper air passages is not encountered often enough in clinical practice to be considered as everyday work, but the knowledge we have gained in its treatment has been of practical value in the management of the common benign lesions. In such conditions of the nose, especially nasal hemorrhage and recurrent polypoid growths, radium has proved beneficial. It has been used successfully also in the control of inoperable tonsils, angioma of the larynx, rhinoscleroma, ozena, tuberculous glands, and fibroma of the pharynx.

J. Coleman Seal, M.D., In *Archives of Physical Therapy*, June, 1938

Associated Physicians

OF LONG ISLAND

41ST ANNUAL MEETING IN BROOKLYN



THE 41st annual meeting of the Associated Physicians of Long Island was held in Brooklyn January 28, 1939. In accordance with custom there was an all day program of clinical work in one of the hospitals, the annual meeting and election of officers, and dinner in one of the clubs. The unusual event was the unveiling of a memorial tablet in the Kings County Medical Society's building.

The clinical day and scientific session was held in the Norwegian Hospital, 4520 Fourth Avenue, Brooklyn, with case presentations in the morning and six papers of ten minutes each in the afternoon. As guests of the hospital an excellent luncheon was enjoyed by the members in the dining room of the hospital. The program was as follows:

10 A. M. Dry Clinic with Case Presentations

1. Anemias of Children—Dr. George J. Brancafo.
2. Demonstration of the Use of the Miller-Abbott Tube—Dr. Milton E. Hoefle.
3. Hypoglycemia—Dr. Francis P. Ferrer.
4. Osteogenic Sarcoma of Femur with Recovery—Dr. Pedro Platon.
5. Twelve Cases of Cancer of the Lip with Various Methods of Therapy—Dr. Gregory L. Robillard.
6. Lesion of the Spine with Symptoms, *Simulating Disease of the Urinary Tract—Dr. L. Gaston Papae.
7. X-Ray Demonstrations—Dr. John J. Masterson.
8. Pathological Exhibits—Dr. Gregory L. Robillard.

Scientific Session (Ten minute papers).

1. Clinical Aspect of Thymus Affections—Dr. Charles M. Fisher. Discussion by Dr. D. E. Overton.

2. Carcinoma of the Large Bowel—Dr. Gregory Robillard. Discussion by Dr. A. S. Warinner.

3. Physiological Supportive Plan of Pneumonia Therapy—Dr. Edward E. Cornwall. Discussion by Dr. Franklin Fry.

4. Lipoid Pneumonia—Histological Demonstration—Dr. John A. Monfort. Discussion by Dr. Archibald Smith.

5. Ambulatory Treatment of Peptic Ulcer—Dr. Bernhard A. Fedde. Discussion by Dr. E. T. Montgomery.

6. Ulcerative Tonsillitis—Dr. Ernest Brooks. Discussion by Dr. Eugene H. Coon.

In the business meeting at 5:30 the following were unanimously elected to membership:

- Dr. Thomas M. Winston, Sayville.
- Dr. Joseph J. La Vine, Baldwin.
- Dr. Willard J. Davies, Rockville Centre.
- Dr. John L. Alley, Brooklyn.
- Dr. Charles Edward Brennan, Brooklyn.
- Dr. George Cochran, Jr., Brooklyn.
- Dr. Hamilton Crawford, Brooklyn.
- Dr. Stanley C. Hall, Brooklyn.
- Dr. Milton E. Hoefle, Brooklyn.
- Dr. Henry A. Mehldau, Brooklyn.

To reward their long record of activity in the association, the following were elected to Emeritus membership:

- Dr. Hugh Halsey
- Dr. J. Richard Kevin
- Dr. John W. Durkee
- Dr. George W. Simrell
- Dr. Frederiek C. Paffard
- Dr. Henry M. Mills.

The chair was authorized to appoint a committee of three members to arrange the details of announcing a prize to be competed for. Competition will be open to members and a prize will be awarded the writer of the best essay on a medical or surgical topic. Further details will be decided by the committee.

—Concluded on page 142

MEDICAL TIMES, MARCH, 1939

Contemporary Progress

Artificial Fever Therapy for Neuropsychiatric Disorders

A. E. BENNETT (*Archives of Neurology and Psychiatry*, 40:1141, Dec. 1938) reports the results obtained at the University of Nebraska department of fever therapy in neuropsychiatric disorders. Of 766 patients treated in this depart-

ment, 244 or 32 per cent. had such disorders; these 244 patients were given 1,591 treatments, or 45 per cent. of the total number given. Physical methods of producing fever were employed, and an air-conditioned cabinet (the Kettering-Simpson hypertherm) was found to be the most effective and safest. Sixty-six cases of neurosyphilis in its various forms were treated, by a combination of fever therapy and chemotherapy. The results show that patients with meningo-vascular neurosyphilis and chronic resistant tabetic states, with cardiovascular complications that contraindicate malarial therapy, can be definitely improved by this form of therapy. The percentage of remissions obtained in dementia paralytica is somewhat higher than with malarial therapy (13 complete remissions in 21 cases in the author's series); and "serologic reversals" occur more rapidly. In asymptomatic neurosyphilis, with positive blood Wassermann and strongly positive spinal fluid reactions, the serologic reactions are completely reversed in the majority of cases (5 out of 8 in the author's series) and the development of active neurosyphilis is usually prevented. Fever therapy also proved of value in relieving pain in severe neuritis of various types (40 cases); in chronic meningococcal infections (not indicated in acute infections); in infectious chorea, and in toxi-infectious psychotic states. It was found to be "of doubtful value" in

multiple sclerosis, and of no value in such conditions as cerebral arteriosclerosis, functional psychoses and chronic encephalitic states.

COMMENT

In the experience of the reviewer the two conditions benefited definitely by artificial fever therapy are syphilis of the central nervous system and Sydenham's chorea.

I recall an instance before the days of malarial treatment where a patient suffered from a severe arsenical dermatitis with the associated febrile reaction. He felt so well on recovery that he returned to the hospital and thanked us personally for making him well. In our ignorance we attributed his alleged feeling to a personal quirk rather than to the now accepted associated fever. Recently an almost identical situation occurred in a female patient who also was sensitive to arsenic, and who reached a febrile apex of 106° on twelve occasions. On recovering she felt marvelously well, due undoubtedly to the constitutional response to the induced hyperpyrexia.

Tabetics have improved so much subjectively that they have urged other cases to submit to the treatment. We feel no cases of syphilis of the nervous system are treated fully unless they have had a course of artificially induced fever therapy. H.R.M.

Diagnosis of Brain Tumor in Older Age Groups

D. W. HASTINGS (*Journal of Nervous and Mental Diseases*, 89:44, Jan. 1939), in a review of 25 cases in patients over forty years of age in whom the diagnosis of brain tumor was made only at autopsy, finds that "the three cardinal symptoms" of brain tumor—headache, vomiting and choked disc—were "conspicuous by their absence." Headache was a symptom in 9 cases of the 25 cases; vomiting in 6 cases; and true choked disc was not recorded in any case although 3 showed hyperemic fundi. The symptoms of brain tumor in older

+ Neurology +

patients may be of short duration, and may closely resemble those of cerebral vascular accidents. In this series the average duration of symptoms was ten months. With one exception the blood pressure in these cases was within normal range or even below. X-ray examinations were made in only a few of these cases, but were of little aid in establishing a diagnosis; the spinal fluid examination, which was made in 19 cases, also was of no definite diagnostic assistance. The clinical diagnosis made in these cases was usually "cerebral vascular accident", in 19 cases; syphilis of the brain in 2 cases; traumatic arachnoiditis in one case; and lead encephalopathy in 3 cases. In the 2 cases in which the diagnosis of syphilis of the brain was made, the Wassermann reaction of the blood and spinal fluid was positive, and the gold-sol curve "paretic", yet autopsy showed a cerebral tumor, and no signs of central nervous system syphilis.

Pathologically the tumor was a glioma in 14 cases, meningeal endothelioma in 7 cases, metastatic tumor in 3 cases, chordoma in one case. Since these 25 cases of unrecognized brain tumor in patients over forty were discovered at autopsy and during a seven year period in a general hospital (Philadelphia General Hospital), "the difficulty in differential diagnosis is apparent."

COMMENT

We have called attention in this column previously to the difficulties attending the diagnosis of a cerebral expanding lesion in the elderly. We stated that a rapidly grow-

ing neoplasm may attain unbelievable proportions before manifesting minimal focal signs. It was felt that this capacity for growth without giving us any clue to its presence lay in the shrinkage of the brain due to age with the resulting additional space for tumor expansion. Certainly many brain tumors in the very adult never manifest papilledema.

We concur with the author in the statement that many of these growths are regarded as ordinary vascular accidents.

H.R.M.

Late Damage from Roentgen Irradiation of the Human Brain

W. SCHOLZ and Y. K. HSÜ (*Archives of Neurology and Psychiatry*, 40: 928, Nov. 1938) report that 3 young patients with schizophrenia showing marked deterioration were submitted to roentgen irradiation of the head, to determine the effect upon the barrier between the blood and cerebrospinal fluid. Exposure was made through six portals with a 180 to 270 per cent.

skin erythema dose for each portal, calculated to give an evenly distributed 400 per cent. erythema dose through the brain. There was evidence in 2 of the cases that this resulted in increased permeability of the barrier in four to six weeks. Two of these patients died about a year and a half after irradiation; during this period their mental condition had remained unchanged, and they developed no focal signs, but shortly before death showed general rigidity and were bedridden. Examination of the brains of these 2 patients, however, showed severe damage which the authors attribute to dis-

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turbances in circulation in the brain. The chief pathological changes were: (1) Numerous and more or less extensive foci of necrosed tissue; (2) Peculiar changes, seen in other irradiated brains, in the form of marked fibrosis of blood vessels and deposition of "peculiar hematogenous substances" in the walls of the vessels and the surrounding nerve tissue; and (3) Impregnation of the elastic layer of the blood vessel walls with a "dustlike fatty material" and development of foam cells in the intima and in the lumen. The latter changes show "a certain similarity to the process of hyalinization." These changes are similar to those previously described after roentgen irradiation of the brain by one of the authors (W. S.), Markiewicz, and others. These findings call attention to "the danger of the liberal use of roentgen irradiation of the head."

COMMENT

It is now fairly well accepted that normal brain tissue can not be exposed to unlimited x-ray dosage without secondary evil effects. These observations have resulted largely from the effects of irradiation on brain tissue in cases where intensive therapy has been administered to combat the malignant gliomata.

H.R.M.

Cerebral Arteriosclerosis

N. W. WINKELMAN (*Archives of Neurology and Psychiatry*, 41:98, Jan. 1939) reports 2 cases showing that symptoms of a focal lesion in the brain are produced by pressure on and actual excavation of the parenchymatous tissue by sclerotic blood vessels. In the first case reported there were symptoms indicating a focal lesion in the brain stem; the clinical picture as a whole resembled "a growing lesion of the brain"; no final diagnosis had been made at the time of the patient's death. In the second case the chief symptoms were convulsive seizures beginning at the age of sixty-one. It is recognized that convulsive seizures may be caused by irritative lesions of the brain. At autopsy in the first case it was found that there was a slow erosion of the lateral portion of the medulla caused by a sclerotic and tortuous blood vessel, which acted "as a small expanding neoplasm." This lesion was evidently responsible for the focal

symptoms noted during life. In the second case autopsy showed erosion of the brain by sclerotic and frequently tortuous blood vessels, which were "bound down to the cortex." Many of these sclerotic vessels were so "bound down" that they could not expand at the expense of the subarachnoid space (as is usual in arteriosclerosis). It is suggested that the brain may be irritated to the point of producing convulsions by such a lesion, especially in susceptible persons.

COMMENT

These observations of Winkelman are much worth while noting. In an elderly individual suddenly the subject of convulsive attacks, this cause must be kept in mind.

Palsies of the abducens nerve are not uncommon as the result of basilar arteriosclerosis. Also an involvement of the optic nerves with visual field defects has been described. It has been believed that attacks of trifacial neuralgia may be due to such compression.

H.R.M.

+ Physical Therapy +

A New Type of Mercury Glow Lamp

R. KOVACS (*Archives of Physical Therapy*, 19:661, Nov. 1938) describes a new type of mercury glow lamp, the distinguishing feature of which is that it is "a filament controlled mercury vapor lamp operating at very low pressure with a very thin window capable of passing radiation as short as 1850 A." The radiation furnished by this lamp consists of 55 per cent. ultraviolet, chiefly at the region of 2537 A, 10 per cent. visible rays and 35 per cent. infrared rays. Clinical tests with the lamp applied "practically in contact" with the skin showed that in normal skin a five minutes' exposure caused an erythema that persisted five or ten days, but without blistering or peeling. With a ten minute exposure there was no blistering, but slight peeling and slight pigmentation. The erythema followed the exposure immediately. Experiments showed the irradiation of this lamp with a five

minute exposure had a definite bactericidal action; in varicose ulcers, however, this bactericidal action did not affect the deeper tissues, although the irradiation had a definite healing effect on such ulcers. This lamp was employed in the treatment of skin infections and sluggish wounds and ulcers. In 20 cases of pyogenic skin infections — impetigo, sycosis, furunculosis, etc.—healing was obtained in 12 cases and marked improvement in the remaining 8 cases. In 7 cases of fungus and parasitic infections, only one case failed to improve (dermatophytosis); cure or marked improvement resulted in the other 6 cases. Of 9 cases of ulcers and wounds, 5 were entirely cured and 4 greatly improved. In a group of miscellaneous conditions results were not so satisfactory, but one case of tuberculous adenitis was cured and another greatly improved.

COMMENT

The bulb described in this article has the value of being inexpensive and applicable to small areas of skin lesions. It can not be used for general irradiation and, being quite powerful in the energy emitted, is not one that should be put in the hands of the laity but only used by dermatologists and, by them, with extreme caution.

Its action is the same as an ordinary cold quartz lamp except that it can not be used for general irradiation and it is similar to the inductance mercury bulb developed by one of the manufacturers of short wave diathermy machines. N.E.T.

Treatment with Octozone Gas

O. PARKES (*British Journal of Physical Medicine*, 1:417 Dec. 1938) reports the use of octozone gas "baths" in the treatment of rheumatic conditions and various local surgical conditions. Octozone is "an intensively active form of ozone" formed when oxygen is electrified under pressure by a method described by the author "some six years ago." For the octozone bath the patient is enclosed, except for the head and neck, in a varnished linen sack that is first exhausted and then filled with the gas. Absorption of the gas through the skin is accelerated by heat, so that a special treatment chair, beneath which a black radiator is placed, is usually employed. The duration of the bath is from one half

to one hour, during which time the bag may have to be refilled. Local leg and arm baths are employed for local lesions. The general octozone bath is used chiefly in "rheumatic conditions." The local baths have given especially good results in varicose ulcers, in the author's experience. In the treatment of cystitis, otitis media, sinusitis, etc., irrigation with a syringe or suitable catheter is employed.

COMMENT

Since ozone (O_3) is such an unstable gas, breaking up in a fraction of a second to nascent oxygen, in spite of claims across the sea, we must accept with question the alleged fact that O_3 which has been stated as the formula for octozone, is any more stable. Consequently, any results obtained by this form of therapy rationally must be looked upon as an application of an environment of nascent oxygen to which, in the reviewer's opinion, too many marvelous results have been attributed. It has not come to his attention that any work has been done during these treatments to ascertain any changes in the oxygen or carbon dioxide content of the blood substantiating the claim that the nascent oxygen in the bag is actually absorbed by the skin and is therapeutically effective. N.E.T.

Fever Therapy at High Humidities

W. FINKELSTEIN (*Archives of Physical Therapy*, 19:748, Dec. 1938) reports the production of artificial hyperthermia by means of a cabinet with low cabinet temperatures and high humidities. With humidities of 100 per cent and a dry bulb cabinet temperature of 100° to 105° F., a rectal temperature of 107° F. can be produced in patients in an hour to an hour and a half and maintained over long periods, "with a maximum of safety and comfort." Pyrexia is induced by the vaporization of water sprayed upon the body under mild pressure through nebulizers. The temperature of the spray is regulated by the thermostat. A cool spray is used when necessary to control rapid pulse, extreme restlessness, anxiety or palpitation, or to prevent too rapid a rise in temperature. After the temperature of the patient is brought to the desired level (usually 107° F. rectal temperature), the spray is turned off and the temperature is maintained at this level for the required period by a process known as "puddling,"

with a "bed of water" heated 110 to 130° F. in a specially arranged compartment with provision for overflow in the bottom of the cabinet. There is little sweating and little loss of blood plasma volume with this method of hyperpyrexia; it is not necessary to administer saline solution during the treatment, but 10 gm. of sodium chloride is given during the twenty-four hours previous to the treatment. Nembutal is usually used as a sedative, but in some cases no sedative is necessary. This method has been used in the treatment of cases of gonorrhea and its complications, syphilis, non-specific arthritis and chorea with good results; and in addition in one case of non-specific ulcerative colitis and one case of pelvic peritonitis from pelvic infection; both of these patients made a good recovery without other treatment. In gonorrhea, the author has found it advantageous to combine prontosil with fever therapy, as giving better results with fewer hazards than either method alone.

COMMENT

Although the first fever therapy machines neglected to recognize the importance of high humidity within the cabinet, work with the apparatus the author uses and with others creating a maximum amount of humidity within the chamber has proven how necessary it is to keep the patients' skin as moist as possible from external influence and not from the perspiration that they must lose. Taking all results of fever treatments into consideration, the most harmful effect upon the human body occurring during these treatments is the depletion of the blood plasma and chlorides. This is caused by excess sweating. High humidity blankets the body in such a way that the skin is inhibited from exuding the valuable fluid from the blood and the chlorides.

The author is an enthusiast in the school of maximum body temperature and the question of whether these dangerous temperatures of 106° or over are as essential as safer lower temperatures, oft repeated, is one yet to be settled. N.E.T.

Effect of Induced Hyperpyrexia on the Urea Clearance

L. E. FARR and J. K. MOHN (*American Journal of Medical Sciences*, 197:53, Jan. 1939) report a study of the effect of hyperpyrexia in 7 patients. Of these 7 patients, 2 had rheumatic fever, 3 sub-

acute or chronic infectious arthritis, one gonococcal arthritis and one dermatomyositis. In these cases, artificial fever was induced with the patient in a cabinet heated by five 200-watt carbon filament lamps; the patient's head and neck were outside the cabinet. The treatment was considered satisfactory when the rectal temperature was raised to 105° F. and maintained at that level for five hours. A sedative, usually nembutal, was given when needed; fluids, such as water, fruit juices, ginger ale and broth, were given "as desired by the patient." All but 2 of the patients were also given "ample quantities" of sodium chloride either in broth or in a 1 per cent saline solution. The treatments were well tolerated, and no untoward symptoms were noted except that a mild hysteria developed during two treatments. Urea clearance studies were begun after the patient's temperature reached about 104° F.; the first clearance period usually lasted until the temperature reached its maximum; the second period "roughly" covered the time during which the temperature remained at its highest level. The average urea clearance during the first period, when the temperature was rising, averaged 61.7 per cent of normal; and during the second period, when the temperature was at the maximum, 75 per cent of normal; in 2 cases a severe oliguria resulted from the treatment. For the entire group, the average control urea clearance, when the patients were afebrile, was 105 per cent of normal. While the decrease in renal function was not serious in these patients, and was transitory, the fact that such a decrease occurred makes it evident that it is desirable to combat dehydration during fever therapy; and also that such therapy should be used "with caution" in patients with damaged kidneys.

COMMENT

As mentioned in the previous review, high humidity is of maximum importance in fever therapy treatments. With an apparatus such as is described in this article, it is to be expected that the urea clearance would be disturbed when provision is not made to inhibit perspiration as much as possible.

The work of Pijoan of Boston has shown that the ingestion of fluids by mouth does not combat the depletion of blood chlorides

with any efficiency comparable with intra-venous injections of fluids.

N.E.T.

Passive Hyperemia in Peripheral Vascular Disease

K. HARPUDER and I. D. STEIN (*Archives of Physical Therapy*, 20:9, Jan. 1939) report a study of the effects of passive hyperemia induced by external pressure of a rubber cuff. The compression of the veins in the arm or leg was carried out at a pressure of 15 to 40 mm. Hg. for forty minutes. In normal persons it was found that the venous blood in the extremity carries less O₂ than normal, but the venous blood of patients with peripheral vascular disease (arteriosclerosis or endarteritis) carried more O₂ than normal. In peripheral vascular disease this increased O₂ content of the venous blood, in combination with an unchanged lactic acid level and a slower circulation, suggests that venous compression induces a better utilization of the blood O₂ by the tissues and thus improves their nutrition. After release of the compression neither the O₂ or CO₂ values of the blood nor the skin temperatures indicated that active hyperemia was produced either in normals or in persons with peripheral vascular disease. In the treatment of cases of peripheral vascular disease, venous compression was carried out by a rubber bandage 4 inches wide applied with very little pressure above the knee daily, for periods increasing from two to eight hours. With the bandage correctly applied, cyanosis was rather slight and "of a reddish tinge"; the limb was swollen "a little" but with no signs of pitting edema; the skin temperature differed but little from that of the other leg. No pain was caused by the treatment. This form of treatment gave the most favorable results in the healing of ulcers in peripheral vascular disease; in some cases it relieved rest pain; but in others it did not; no results were obtained in gangrene or cellulitis complicating arteriosclerosis or endarteritis.

COMMENT

The use of pressure suction in the treatment of peripheral vascular diseases has steadily been refined through the years it has been used. At first it seemed just a simple procedure of putting an extremity into a

boot and turning on the machine without regard to manometer readings nor speed in the changes of pressure.

Work such as these authors have done contributes very materially to the more rational application of this therapy.

N.E.T.

+ Public Health, +
Industrial Medicine and
Social Hygiene

Typhoid Fever Carriers in Nova Scotia

J. J. MACRITCHIE of the Department of Health of Nova Scotia (*Canadian Public Health Journal*, 29:575, Dec. 1938) notes that in the last few years the death rate from typhoid fever in the Province of Nova Scotia has been the lowest of any province in Canada. The fall in the death rate is due "at least in part" to effective public health work in the control of water, milk and food supplies and sewage disposal. There have been no large or widespread epidemics of typhoid fever in Nova Scotia in recent years. The cases reported have been "sporadic or endemic" in character. Investigations of minor outbreaks of the disease have shown the importance of the carrier as the source of infection. In a two-year period from April, 1936, the Department of Health has detected and placed under control 8 typhoid carriers, making a total of 20 now listed. The author reports on 3 of these carriers. In one instance 5 cases of typhoid (one fatal) occurred in a lumber camp; in previous years a few cases of the disease had also occurred in this camp; the cook was found to be a typhoid carrier, although he gave no history of a previous attack of the disease. In the second instance, 5 cases of typhoid (2 fatal) occurred in a construction camp; the blacksmith in the camp was found to be a typhoid carrier; and it was found that he was probably responsible for a minor outbreak in another camp the previous year; he had had typhoid fever nineteen years before. In the third case, a physician reported a case of typhoid in a nearby community and stated that he had treated a case of typhoid each year in

that community. Fecal specimens were obtained from persons who had had typhoid, and the carrier was found. All these 3 carriers had a cholecystectomy done, after which the feces became permanently negative for typhoid bacilli. These histories show the importance of the detection of carriers in the control of typhoid fever. "The typhoid carrier who is unaware of the fact that he is a carrier is a household and community menace. Each one discovered and controlled saves the community from what might be serious epidemics of the disease."

COMMENT

The trend in the incidence of typhoid fever as experienced in the province of Nova Scotia is similar to that in many sections of the United States. There is unanimous agreement among all public health workers that improvement in effective control of milk, water, and food supplies, as well as progress in general sanitation, has been materially responsible for the decline, not only of typhoid fever, but also of all infectious enteric diseases. Well organized departments of health have, in the last few years, instituted systematic supervision and control over detected typhoid carriers. While it is true that many typhoid carriers at present still escape notice and are largely responsible for the so-called residual endemic typhoid fever, research is definitely leading toward greater efficiency and improvements in methods for the recognition of carriers. Continuation of the present rate of progress in sanitation and hygiene will ultimately, perhaps in our own generation, leave only the matter of typhoid carrier detection and control as the single problem for the solution of typhoid fever in this country.

Epidemiologists are finding it increasingly difficult to uncover the sources of sporadic cases and outbreaks of the disease. However, methods of procedure are improving at the same time to the extent that the laboratory is playing an increasingly important role in bringing to light the hidden reservoirs of infection. M.L.G.

Skin Testing as an Epidemiological Index of Tuberculous Infection

L. L. LUMSDEN, W. P. DEARING and R. A. BROWN (*American Journal of Public Health*, 29:25, Jan. 1939) question the value of the tuberculin skin test as an epidemiological index of tuberculosis on the basis of their findings in a

survey in Coffee County, Alabama and Giles County, Tennessee. These two counties were selected for survey because the former was representative of the low tuberculosis mortality rate in the coastal plain region and the latter of the high tuberculosis mortality rate of the Tennessee Valley region. Both the counties are largely agricultural, and show much the same distribution of the population by town, village and rural districts and by race and nationality. The tuberculosis mortality rate in Giles County for the last nine years averaged 116.4 per 100,000 among whites and 210.2 among negroes, as against 12.5 among whites and 59.4 among negroes in Coffee County. In using tuberculin skin tests by the Mantoux method, it was found that various standard tuberculin preparations employed by health authorities gave a widely varying percentage of positives in the same groups. This would indicate that the percentage of positive reactors to skin tests depends largely upon the preparation of tuberculin used; and that such preparations vary widely in potency and/or specificity. With a single brand of tuberculin (a P.P.D. preparation), tests on 2,126 school children in Giles County and 1,828 children in Coffee County gave very nearly the same percentage of positive reactions in the two counties, "notwithstanding the very marked differences between the two counties in tuberculosis mortality rates." On x-ray examination, 43.2 per cent of white school children and 25.8 per cent of Negro school children in Giles County showed definite evidence of calcified pulmonary areas, as compared with 0.6 per cent of white school children and 1.1 per cent of Negro school children in Coffee County. There was no correlation between positive skin reactions and the presence of calcified pulmonary areas. The authors conclude that further study of the tuberculin skin test and the preparations employed is "in order," before it can be accepted as an epidemiological index for determining the incidence of tuberculosis in various population groups.

COMMENT

This contribution by experienced medical officers in the U. S. Public Health Service is of tremendous and far reaching importance

to all health workers. It brings again to the fore the question, not only of tuberculin standardization which has for years been a problem of the National Institute of Health, but also it reveals to health workers the fact that sole reliance on the skin reaction to the tuberculin test, as an index of infection, is fallacious. In view of the fact that health agencies have uniformly adopted the procedure of tuberculin skin testing followed by x-ray examination of positive reactors as part of the program to detect tuberculous infection and disease, a revision of our present attitude with regard to this phase of productive health activity is definitely indicated. Since early detection of infection by the tubercle bacillus is the keynote of the current tuberculosis control program and the work of the authors has shown the evident unreliability of the tuberculin test as an indicator of infection, it is clearly advisable to revise our programs whereby, at least for the time being, an x-ray examination of the chest be given to all persons included within the scope of tuberculosis detection programs. M.L.G.

Basophilic Aggregation Test Applied to Cement Workers

F. R. HOLDEN and C. E. RALSTON (*Journal of Industrial Hygiene*, 21:5, Jan. 1939) note that two recent reports from Germany and England have indicated that there is definite increase in the number of stippled red cells in the blood of cement workers, which may be equal to or greater than the increase in these cells in persons exposed to lead poisoning. If this is true, the basophilic aggregation test of McCord, which has been used for the estimation of lead poisoning, might also be affected. It is to be remembered, however, that the "basophilic aggregations" of this test represent not only stippled cells but reticulocytes and all other cells that may contain basophilic materials. The authors made the basophilic aggregation test by McCord's method on 136 men from the cement industry, including 63 men exposed to limestone, shale and cement dust, and 73 men without such exposure. There was no significant rise in the basophilic aggregation count in the group as a whole, and no significant difference in the groups exposed to various dusts and those not exposed to dusts. No pathological changes in the red cells suggestive of plumbism were found. In cement workers in the United States,

therefore, there is no increase in the basophilic aggregation count that would in any way diminish the value of this test in determining lead absorption.

COMMENT

Further studies are necessary to establish, beyond any measure of doubt, whether or not there is a definite increase in the number of stippled red cells in the blood of cement workers. The basophilic aggregation test of McCord's is still regarded by many industrial hygienists in this country as an important criterion for the estimation of lead poisoning. Field investigations with reference to this issue by other observers are clearly in order. M.L.G.

Hypopyon Ulcers in Miners

A. J. RHODES (*British Journal of Ophthalmology*, 23:25; 38, Jan. 1939) notes that at the Royal Infirmary of Edinburgh, it has been found that over half the cases of hypopyon ulcer seen in the ophthalmological department occur in miners (coal and shale). The economic importance of such ulcers in miners is considerable, as in severe cases, the eye may be lost, and in all cases vision is considerably reduced. The vast majority of hypopyon ulcers are infective; hence a study of the micro-organisms of the conjunctival sac was made in 658 healthy coal mine workers, and 189 shale workers. Among the coal mine workers, those working below ground did not show a conjunctival flora essentially different from that of the surface workers. Among both coal mine workers and shale workers potentially pathogenic organisms were found in the conjunctival sac "in significant quantity," including *Streptococcus viridans*, *Pneumococcus*, *Diplobacillus of Morax*, etc. The author concludes, therefore, that the conjunctival bacteria of these mine workers is "potentially dangerous" and that the source of infection in hypopyon ulcer is already present in the eye. The workers most likely to contract the disease are those most exposed to injury to the cornea.

COMMENT

Since the basis of hypopyon ulcers is a pre-existing keratitis and in the instances of miners and shale workers the keratitis in all probability is caused by irritation of the cornea due to dusts, an adoption of a method

for the prevention of dust irritation to the eyes of these workers is clearly indicated. Perhaps it would be well to recommend a requirement for all such mine workers to employ a protective bland eye ointment during the course of their work in addition to cautioning them against rubbing the eyes.

M.L.G.

Investigation of Selected Cases of Syphilis

L. G. LEVINGSON (*New England Journal of Medicine*, 219:943, Dec. 15, 1938) notes that "the present trend in the control of syphilis is toward the finding and treating of infectious and potentially infectious patients." In the Albany district of the New York State Department of Health, 276 cases of syphilis had been reported from Jan. 1, 1936 to June 1, 1937; of these 44 were reported as "early," and 232 as "late" cases. Further investigation showed only 33 of the reported early cases were really such, while of the 252 "late" cases, 48 were potentially infectious. The 33 early cases were further investigated in the attempt to discover contacts. Of these 33 patients, 29 named 33 sexual contacts who were interviewed and examined; 15 of these contacts had been examined previously, of whom 14 had early syphilis; 18 were examined after the interview with the patient, and of these 8 had early syphilis. Thus 8 new cases of early syphilis were found. Further study of the contacts showed that in most cases in which the contact had not been previously examined, the relation was extramarital. Marital contacts are more apt to be examined in "the normal course of events" by the practitioner first having charge of the original case. It was found that male contacts of female patients tended to seek advice and come under observation earlier than female contacts of male patients, when the relation is extramarital. If this proves true for a larger number of cases, emphasis on the follow-up of female contacts will shorten the time between exposure and examination. In the district studied, private physicians had "done a better job" of investigating contacts than the clinics. For a satisfactory follow-up of contacts of syphilitic patients, clinics must have a specially

equipped staff; but such follow-up to bring contacts under control and treatment when the disease is in the early stage is an important factor in the control of syphilis, which should receive greater attention in public health clinics.

COMMENTS

The epidemiologist in syphilis control has come to assume an increasingly important part. Health departments are now, more than in the past, placing greater emphasis on controlling infectious syphilis than on other aspects of the problem. The combination of time, effort, and funds spent by health agencies toward more effective investigation and control of infectious syphilis has already yielded fruitful results. Wherever this type of syphilis control has been conducted, physicians are experiencing, in their practice, a definite reduction in the number of early cases of syphilis seen, as well as a relative increase in the number of late cases. It is also a general experience that the private practitioner is offering greater and better cooperation in the interest of controlling infectious syphilis than in the past. Perhaps a large measure of this development can be attributed to the nation-wide educational campaign.

M.L.G.

+ Ophthalmology +

Pathogenesis of Rhinogenous Optic Neuritis and of Serous Iritis

B. WALDMANN of Roumania (*American Journal of Ophthalmology*, 22:44, Jan. 1939) notes that optic neuritis of rhinogenic origin is comparatively rare; his studies of this form of optic neuritis have convinced him that it results from an aseptic process in the optic canal, and "is brought about exclusively by mechanical factors," i.e., by compression of the optic nerve, either by direct pressure or collateral edema. This process originates from either an empyema of the posterior sinuses or a chronic hypertrophic inflammation of these sinuses. In the author's experience serous iritis is of more frequent occurrence than rhinogenous optic neuritis, and is always due to a catarrhal infec-

tion, "even in the presence of syphilis or tuberculosis." In 1929, he reported 10 cases of serous iritis associated with upper respiratory tract infection, and since that time he has had "numerous cases" of serous iritis under observation. In every case there had been a catarrhal infection about two weeks prior to the onset of ocular symptoms; this infection has run a mild course and has been confined chiefly to the upper respiratory passages. In some years only one to two cases occurred, in other years 10 to 15 cases, usually "when a mild endemic influenza was prevalent." While serous iritis is unilateral at first, the second eye may be involved either a few weeks after the primary involvement or years later. The best method of treatment in serous iritis, the author has found to be the daily application of cocaine-adrenalin nasal swabs, which favors drainage of the pathologic discharge from the sinuses.

COMMENT

The older conception of the pathology of sudden loss of vision (retrobulbar neuritis—axial neuritis) is evidenced by the titles given. It seemed very plausible, then, to say that disease of the posterior ethmoidal cells did frequently cause the sudden loss of vision of one or both eyes by the pressure upon the optic nerve as it passed through the optic canal very close to the posterior ethmoidal cells. The fact that the macular bundle is in the center of the optic nerve, and surrounded by a thick layer of unaffected fibers supplying the peripheral retina, was quite overlooked. The more reasonable explanation that the primary cause was the damage to the ganglion cells of the macular area of the retina, and that the degeneration of the macular bundle in the optic nerve was secondary, was supported by animal experimentation. Animals poisoned by quinine showed this and also an associated damage of the ganglion cells in the optic thalamus and geniculate ganglia. Whether acute pressure upon the nerve, in the optic canal where it is separated from the posterior ethmoidal cells by a very thin plate of bone, does often cause macular bundle disease, is very doubtful. Pressure upon these fiber bundles as they decussate near the upper surfaces of the chiasm, by the anterior communicating arteries, explains the sudden loss of direct vision in pituitary disease, but there is no analogy with the conditions as they are in the optic canal.

Careful afterstudy of case groups of this class proves very conclusively that, after al-

cohol and tobacco, multiple sclerosis is the next common cause of sudden loss of vision in one or both eyes. In every group of retrobulbar neuritis cases reported, there has been a respectable number (10-15 per cent) with the diagnosis in doubt. If this group of doubtful diagnoses is watched for some years, many turn out to be multiple sclerosis.

In this country, ethmoidal disease is not considered as the cause of many cases of retrobulbar neuritis, but the nose is always examined because chronic ethmoiditis may cause severe loss of vision, usually monocular, due usually to a uveitis with exudates clouding the vitreous. These cases are not numerous. Any form of serous iritis (uveitis) is rare in this vicinity and the common causes are syphilis and tuberculosis. Many of the last group are definitely featured by large chorioretinal lesions. Only since the slit-lamp came into general use (1921) have we been able to diagnose these cases, which were previously considered idiopathic. Allowance must be made for variations in the epidemic type and also for the effect of local conditions. Because the respective rates of incidence of the various types may vary in any given locality, for any given period, individualization of cases remains as important as ever.

R.I.L.

Vascular Obliteration for Various Types of Keratitis

T. GUNDERSEN (*Archives of Ophthalmology*, 21:76, Jan. 1939) notes that in the eye wounds may heal by primary intention "with little assistance by blood vessels," as shown in corneal grafting; in keratoplastic operations, in fact, the postoperative ingrowth of blood vessels is the greatest hazard. The theory that well vascularized organs are less subject to infections than those poorly supplied with blood vessels is also "not borne out in the eye"; the avascular cornea, for instance, rarely becomes infected in acute conjunctivitis, "which represents a severe infection of an adjacent well vascularized tissue." That reducing the blood supply of the cornea has a healing effect on corneal lesions was observed almost two centuries ago. The author reports 36 cases of keratitis of various types showing the effect of destroying the abnormal blood supply on the corneal lesion. In these cases the operative procedure was varied, according to the findings in each case. A careful pre-operative study with the slit lamp was made, and the exact location of the vessels to be sev-

ered noted and recorded on a schema. A combination of diathermic cutting and coagulating current was employed with a sharp-pointed needle. Ordinarily little discomfort followed the operation and hospitalization was not necessary unless the operation was extensive; a monocular bandage was worn for a few days. Mildly antiseptic collyria (such as 0.1 per cent zinc sulfate in saturated solution of boric acid) were used at four hour intervals; and a mydriatic if there was a secondary iritis. In the 36 cases treated, results are recorded as excellent in 12 cases, good in 9 cases and fair in 9 cases, with only 6 cases showing no improvement. The author states that "considering the chronic nature of the disease in each case, the results were good"; and support the assumption that "the newly formed blood vessels cause and maintain the reactivation" of the corneal lesions. The operation was of special value in dendritic keratitis (keratitis metaherpetica); of 6 cases of this type, the operation gave excellent results in 4 and good results in 2 cases.

COMMENT

This commentator does not accept the theory that new blood vessels do harm under any circumstances. It seems much more reasonable to say that in cases with these new vessels there are factors operating that have not been recognized. That cutting off the circulation in the conjunctiva in phlyctenular conjunctivitis and allied conditions by peritomy was a very successful procedure, is in doubt. The operation is rarely done nowadays, as the slit-lamp has been added to our diagnostic apparatus, although I may be falling into the same error as those on the other side of this argument—confusing a post hoc with a propter hoc. Any procedure employing heat is effective in corneal lesions and the limiting of its effects to the blood vessel interruption is claiming too much. Particularly illuminating is the success of this idea in the cases of dendritic keratitis: in which disease, keeping the eye closed and covered as long as the cornea is lacking in sensitivity, with a local antiseptic, is often all that is necessary. If this does not bring success, the ulcer is treated with carbolic acid (95 per cent) and the Shahan thermophore reserved as the last resort.

R.I.L.

Acute Alcoholic Amaurosis

F. D. CARROLL and R. GOODHART
(*Archives of Ophthalmology*, 20:797,

Nov. 1938) report that in the past two years they have seen 6 cases of total but temporary blindness associated with poisoning due to ethyl alcohol. The history in these cases showed that the patient became suddenly blind during or soon after the consumption of alcoholic liquor. When examined, usually within a few hours, the patients showed total blindness in both eyes, normal pupillary reactions to light and convergence ("as in the amaurosis associated with uremia") and normal fundi. In 2 cases a sample of the liquor was analyzed and found to contain ethyl alcohol, but no trace of methyl alcohol. In a third case the liquor consumed was of a widely known brand. In all cases the patients regained normal vision, and in 5 of the cases, recovery was complete in twenty-four hours, the sixth patient recovering normal vision somewhat more slowly. While blindness following the consumption of alcoholic liquor has usually been attributed to the action of methyl alcohol, the authors find that methyl alcohol poisoning is of rare occurrence. The fact that amaurosis may occur as a result of acute ethyl alcohol poisoning, although rarely, should be recognized, on account of the "excellent prognosis" of this form of amaurosis as contrasted with the poor prognosis "generally given in the cases of blindness due to methyl alcohol poisoning."

COMMENT

This is a most unusual effect of ethyl alcohol as ordinarily consumed. We must accept the author's statement that methyl alcohol was not found in two of the three samples but there are other poisons that find their ways into such commonly used things as snuff, Jamaica ginger, spirit of camphor, silver polish labelled harmless, and the depilatory ointments. Only a couple of years ago, a widely advertised brand of whiskey was suddenly withdrawn from the market because it was shown to contain methyl alcohol. In New York City, the Health Department has found lead in the coloring of snuff, methyl alcohol in a goodly percentage of ready-to-take-with-you bottles of camphor, etc. The poisonous cresols have been found in Jamaica ginger, an allegedly harmless silver polish contained cyanide of soda, and a depilatory cream containing thallium acetate was driven from the market only a few years ago. The refilling of bottles

is another possible danger. We cannot assume that methyl alcohol is the only probable contamination in whiskey.

R.I.L.

Ocular Symptoms of Molluscum Contagiosum

G. OFFRET and R. DUPERRAT (*Archives d'ophtalmologie*, 2:993, Nov. 1938) state that it is generally recognized that a typical lesion of molluscum contagiosum may involve the eyelid, but it is not generally recognized that there may be associated lesions of other structures of the eye. In a case that came under the authors' observation, the patient, a man in good health, developed a unilateral follicular conjunctivitis, for which no definite cause could be found; this proved resistant to various forms of treatment and was later complicated by a keratitis, which caused pain, photophobia, and a definite diminution in vision. The eye symptoms had developed at the same time that a very small tumor had been noted on the lower eyelid, although the location of this tumor was such that it could not have irritated the conjunctiva by direct contact. The tumor of the eyelid was removed, and showed the typical histology of molluscum contagiosum; after removal of the tumor, the keratitis and conjunctivitis subsided promptly without further treatment, only a slight hyperemia of the conjunctiva persisting. In a review of the literature the authors find 40 other cases of lesions of the conjunctiva associated with molluscum contagiosum of the eyelid. Conjunctivitis of the follicular type was the most frequent lesion in this series of cases; a few cases showed an associated keratitis, as in the authors' case; in 2 cases there was a conjunctival tumor. In the cases in which a nodule on the eyelid was removed, the conjunctivitis cleared up promptly; if the nodule was not removed, the conjunctival lesion was very resistant to treatment and the cornea might be involved. If the lesion on the eyelid is removed, even the keratitis clears up, however, as in the authors' case. In the 2 cases of tumor of the conjunctiva, the growth was removed and proved to be a typical nodule of molluscum contagiosum. The authors conclude from their study of these cases that molluscum contagiosum is caused by

a virus, which may also invade the conjunctiva and even the cornea, causing the lesions described.

COMMENT

It is well established that molluscum contagiosum is caused by a filtrable and ultra-microscopic virus just as are herpes, lethargic encephalitis, smallpox and chickenpox. The explanation of these cases is logical and the report has definite clinical value.

R.I.L.

Use of Sorbitol in Glaucoma

J. BELLOWES, I. PUNTENNY and J. COWEN (*Archives of Ophthalmology*, 20:1036, Nov. 1938) note that the value of lowering the intra-ocular tension by means of the intravenous injection of hypertonic solutions is recognized, especially when the tension cannot be controlled immediately after an operative procedure on the eye, or when it cannot be controlled by other measures previous to operation on a glaucomatous eye. Hypertonic solutions are of special value in those cases of glaucoma in which the intra-ocular tension remains high in spite of the use of "the strongest miotics." Among the substances used for hypertonic solutions, sodium chloride and dextrose have great diffusibility, enter the anterior chamber of the eye, and tend to cause a secondary rise in tension. Sucrose, which is a nondiffusible disaccharide, has given good results in lowering the intra-ocular tension in the authors' experience, but other investigators have found evidence that it injures the kidneys. As sorbitol, which is chemically a complex alcohol, has been found to be inert, it was investigated with a view to its use for osmotic therapy. In experiments on dogs, it was found to be only slightly diffusible into the anterior chamber. In patients with glaucoma (primary or secondary), the intravenous injection of 100 c.c. of a 50 per cent. solution of sorbitol was found to lower the intra-ocular tension in all cases. The reduction in the tension was most marked in those cases "where it was most desirable, namely, in patients with high intra-ocular tension who do not respond to the administration of miotics alone." It caused no secondary rise above the

initial value; in some patients who were not operated upon for several days, the intra-ocular tension remained at a fairly normal level. The injection of sorbitol may be repeated in twenty-four hours if necessary.

COMMENT

Effective reducers of tension in glaucoma, acute or chronic, are welcome, but their reliability must be established by repeated successes before they can displace pilocarpine, eserine or fistulization.

R.I.L.



EDITORIALS

—Concluded from page 102

dom was imposed. Of course, experience is curious youth's greatest desire.

WE fancy Mrs. Dennett's method of teaching more likely to be adopted if her fellow-travelers, once confused and disloyal but now more sophisticated, were to gain power today. Puritanic proponents of sex hygiene teaching in the schools, a majority group, would hope that by means of the Dennett method the great increase of illegitimacy cases in which high school students are sometimes the parents could be reduced or eliminated.

An undominant minority group of sex hygienists might be denominated the Corinthian school; these realists would presumably make their teaching prophylactic and practical, including, perhaps, an abortion bureau to cover, as abortion invariably does, the failures of contraception.

It is our judgment that neither of the above methods should gain entrance to the schools. A plague on both their houses! Let them remain outside the schools, along with their Cinderella sister, the religious method of ordering life and character. If democracy can bear

one, it can bear all of these exclusions. If Cinderella is unconstitutional, what of the constitutionality of this Pandora—sex hygiene teaching in the schools—and her box of choice viruses?

One alleged key to the situation sometimes advocated is young adult (parental) education. After all, it is held, sex hygiene instruction on the precious basis of individualism should be the goal in a democracy. Sex is one thing that should not be totalitarianized, even if we could have a Havelock Ellis in every classroom. In such ratio as the totalitarian state emerges will educative influence outside of the schools be forfeited. What must be insisted upon and educationally provided for, say the advocates, is responsible parenthood, already held accountable for truancy, for school taxes, and for educational laws.

In any case, whether academic or parental, the teaching of sex hygiene cannot remedy the social threat and consequences of low mentality (which figures largely in illegitimacy proceedings); this goes back to basic biologic considerations. Such teaching will not reduce the percentage of unwed mothers.

To gauge and gear the school system according to the supposed needs of a defective element would be a new "low" in the educational betrayal of normal children.

CINCHOPHEN AND THE LIVER

I HAVE seen sufficient cases of severe and sometimes fatal atophan (cinchophen) poisoning to convince me that it ought never to be given to patients for gout or rheumatism until the levulose test has shown that there is no hepatic insufficiency and never if there is any history of jaundice or alcoholism. It should not be given for more than four days in each week, but this by itself is not a sufficient precaution, as I have seen it develop in a patient who had taken only half a dozen tablets.

Arthur Hursh, M.D., In Practitioner, June, 1938

**ASSOCIATED PHYSICIANS
OF LONG ISLAND**

—Concluded from page 128

The following officers were elected:

*E. Jefferson Browder, M.D., Brooklyn,
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*John B. Healy, M.D., Babylon
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*Harold R. Merwarth, M.D., Brooklyn,
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3rd Vice-President*

*David E. Overton, M.D., Hempstead,
Secretary*

*Edwin A. Griffin, M.D., Brooklyn,
Treasurer*

The unveiling of the tablet in the Kings County Medical Society Building at 1313 Bedford Avenue, Brooklyn, cul-

minated the Fortieth Anniversary of the Association. A large bronze tablet erected upon the south wall of the foyer is a memorial to the founding of the association in Brooklyn in 1898. Dedictory remarks were pronounced by Dr. William H. Ross, the unveiling was performed by the association's first president, Dr. William Browning, and the tablet was accepted on behalf of the Medical Society by Dr. Edwin P. Maynard.

Dinner in the Montauk Club was particularly marked by the spirit of comradeship which is increasing in the association. The after-dinner speaker was The Honorable Hugh H. Clegg, Assistant Director of the Federal Bureau of Investigation, whose talk described the FBI's combat with kid-nappers.

The plus of the daily practice

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Edited by Alfred E. Shipley, M.D., Dr. P.H.

A New Work on Malignancy

CANCER WITH SPECIAL REFERENCE TO
CANCER OF THE BREAST. By R. J. Behan,
M.D. St. Louis, The C. V. Mosby Company,
[c. 1938]. 844 pages, illustrated. 4to. Cloth,
\$10.00.

Here is a calm, intelligent and unbiased presentation of the cancer problem. It deals primarily with cancer of the breast but a discussion of theories and therapy carries it far from breast problems per se. Study of this material is worth the time of any physician be the cancer problem his primary consideration or not.

Under General Consideration of Cancer there is a statistical review with excellent charts accompanied by a discussion of the pertinent factors.

The review of the Etiology is detailed. No doctor should miss it. (The bibliography seems all inclusive.)

Heredity as a predisposing factor is discussed intelligently and not as a hook upon which to hang everything as was assayed in a recent communication.

The section on Pathology is clear and concise. There is an impartial review on the pathological physiology, biochemistry and biophysics of the cancer cell and cancerous tissue.

The chapters on Symptomatology and Examination are clinical and practical. That on Multiple Tumors is intensely interesting. The section on Diagnosis

further stresses the need for meticulous and orderly thought and re-emphasizes the dictum that a mistaken diagnosis or procrastination may be fatal.

The Diagnostic Tests are reviewed in some detail "because some of the tests for cancer may include fundamental basic facts from which later can develop better and more certain procedures for the diagnosis of cancer." Nothing that we might add could express more succinctly the unprejudiced attitude of this book.

The author's remarks on Biopsy are timely. This chapter should be read if nothing more is read.

There are splendid charts and detailed descriptions of the breast lymphatics. He shows that this knowledge is essential if breast cancer is to be treated intelligently and the metastases to be understood. (In the section of Metastases he again

stresses the need for careful diagnosis, pointing out the embarrassment of mistaking the metastasis for the primary tumor.)

The chapter on Treatment reviews our present armamentaria, gives recommendations and the reasons why. Constitutional Treatment is brought to the fore, calling to mind how often it is relegated to the background and advising that any type of therapy will fail unless every means at hand is used to bolster the



Classical Quotations

● Those who have dissected or inspected many bodies, have at least learned to doubt; when others, who are ignorant of anatomy and do not take the trouble to attend to it, are in no doubt at all.

Giovanni Battista Morgagni

De Sedibus et Causis Morborum.

YOU may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the **MEDICAL TIMES**, 95 Nassau Street, New York, N. Y.

patient.

The sections on Incisions, Operative Technique and Operative Sequela offer nothing new of note. Chemotherapy, Vaccines, Sera and Organotherapy are gone over in some detail.

Irradiation, Radium and Radon therapy are given careful consideration. Recommendations for its use are cautious and the benefits of its use given the advantage of any misgivings he might have.

All in all this work is a splendid contribution. **JOHN J. GAINES.**

A Psycho-Somatic Study

CIVILIZATION AND DISEASE. By C. P. Don-
nison, M.D. Baltimore, William Wood & Com-
pany, [c. 1938]. 222 pages. 8vo. Cloth, \$3.00.

The introduction to this little volume, written by Sir Walter Langdon-Brown, seems to describe and review the nature of the work better than even the publisher. The book addresses itself to the subject of the relationship between the physical and mental diseases most characteristic of our civilization (hypertension, hyperthyroidism, peptic ulcer, diabetes and the psychoneuroses), and our cultural status itself. But he does not remain satisfied with the mere statement that the "wear and tear" and the "false fronts", etc., are (vaguely) responsible. He seeks a solution to the question by conceiving these ailments as expressions of the price paid by a biologically developing animal in the struggle to evolve a continuously more efficient communal or social form of society.

The author spent some time as a medical officer among native African tribes. The absence of such conditions

struck him as forcibly as the difference in social development. He finds the individualistic types of psychological theory (such as Freud) insufficient to answer the problem, but appears to feel that the Adlerian concepts of social maladjustment fit better. To the author, the biological degenerations typical of our society are evidence of a biological as well as a purely anatomical struggle to evolve a gregarious form of life more efficient than the aborigine's socially, if not individually. **SAM PARKER.**

Reimann's Pneumonias

THE PNEUMONIAS. By Hobart A. Reimann, M.D. Philadelphia, W. B. Saunders Company, [c. 1938]. 381 pages, illustrated. 8vo. Cloth, \$5.50.

This monograph by a recognized authority presents in a convenient form the newest knowledge of the subject. To designate all forms of pneumonia which do not conform clinically with typical lobar pneumonia, the term "atypical" as proposed by Cole, is adopted. Synonyms are broncho-lobular, catarrhal diffuse and pneumonitis.

It is emphasized that the important classification is the etiological one. Nearly fifty kinds of pneumonia are listed in four columns and discussed in the four corresponding parts of the book. The four groups are (1) specific forms, usually primary, (2) specific forms as part of a systemic disease, (3) Pneumonias secondary to acute or chronic diseases, mechanical causes, shock, senility, etc., and (4) special forms of pneumonia not caused by infection, as oil aspiration, radiation pneumonitis and chemical and allergic pneumonias.

Thirty-two types of pneumococci are recognized. The soluble carbohydrate substance (polysaccharide) forming the capsule is of constant chemical nature and different for each type of pneumococcus. The effect of serum is believed to be specific precipitation or neutralization of the carbohydrate substance. When a sufficient amount of the proper serum has been given, or the patient recovers, an intradermal injection of polysaccharide will no longer produce a reaction, as it will do when the disease is present. This is the opposite of the generally accepted opinion based on the work of Francis.

The characteristics of each type of

pneumonia are described, followed by a chapter on the complications. The appearance of a diastolic murmur is said to be almost pathognostic of endocarditis.

In discussing treatment full directions for testing sensitivity to horse and rabbit serum are given. Rabbit serum is preferred as it is by others for type fourteen, as horse serum for this type may cause agglutination of human red blood cells and serious reactions. It is considered doubtful if allergic patients can be actually desensitized. It is noted that Cole has recently advocated 100,000 units at once or within six hours on beginning treatment. In some cases 300 to 500,000 units are needed especially for types 2, 5, 8 and 14 or when given late or more than one lobe involved or a positive blood culture obtained. A fall in pulse rate is a sign that enough serum has been given. (Bullowa) The test for agglutinins is said not to be reliable as antibodies and agglutinins are not necessarily the same.

The fluid intake is generally 2,000 to 4,000 cc. It is not considered to be important to give chlorides unless the plasma chlorides are low (400 to 450 mg.). As chlorides appear to be retained in the body it is ordinarily not reasonable to give more, but one ounce of sodium chloride in twenty-four hours may help.

Acidosis is believed to be rare and alkalosis more common. Quinine and its derivatives and vaccines are stated not to be helpful, and benefit from sulfanilamide unproven.

WILLIAM E. MCCOLLOM.

Neo-Natal Therapy

THE NEW-BORN INFANT. A Manual of Obstetrical Pediatrics. By Emerson L. Stone, M.D. Second edition. Philadelphia, Lea & Febiger, [c. 1938]. 291 pages, 8vo. Cloth, \$3.00.

Dr. Emerson Law Stone has written this book to instruct obstetricians better to understand new-born infants. An infant's first month or six weeks of life is often in the hands of an attending nurse or relation or a tired mother under somewhat disinterested guidance of the obstetrician primarily trained in the surgical branches to study the physiology and pathology of the new-born. It is of big value to the practitioner who includes obstetrics in his general work.

This second edition contains one

hundred pages of new material. It is a useful reference book, for many of the statements have footnotes referring to original sources. If one skims through this concise book and finds a point about which he wishes more complete information the footnotes will guide him to an original article upon it.

DAVID E. OVERTON.

Digestive Tract Relationships

CLINICS ON SECONDARY GASTRO-INTESTINAL DISORDERS; RECIPROCAL RELATIONSHIPS. By Julius Friedenwald, M.D., Theodore H. Morrison, M.D., and Samuel Morrison, M.D. Baltimore, William Wood & Company, [c. 1938]. 251 pages. 8vo. Cloth, \$3.00.

This little book fills a long-felt need. It emphasizes the importance of considering the gastrointestinal symptoms caused by extra-gastrointestinal conditions and the extra-gastrointestinal symptoms caused by gastrointestinal diseases, which are so often overlooked in a careless study of only one tract or system. Systematically and thoroughly the authors take up these relationships in regard to cardiac affections, pulmonary tuberculosis, liver and gall bladder diseases, genito-urinary and female pelvic disturbances and endocrinopathies. Syphilis, within and without the gastrointestinal tract is beautifully covered. A chapter on anemias and deficiency status is well worth studying. The consideration of nervous diseases is particularly good, and should act as a brake on the enthusiastic exponents of a diagnosis of "nervous indigestion." Allergy is given its proper place.

This book should prove of the greatest value not only to students and general practitioners, but to specialists in all fields, and will help to broaden their conceptions of the interrelationship of the various systems of the human body.

A. F. R. ANDRESEN.

Eisendrath's Latest G. U.

UROLOGY. By Daniel N. Eisendrath, M.D. and Harry C. Rolnick, M.D. Fourth edition. Philadelphia, J. B. Lippincott Company, [c. 1938]. 1061 pages, illustrated. 4to. Cloth, \$10.00.

This fourth edition is entirely revised and reset.

In the four years which have elapsed since the third edition was printed many changes and improvements in the practice of urology have taken place. They

are all adequately handled.

The more notable additions are new chapters on cystometry, on nephritis, and on adrenal neoplasms. The newer treatments of urological infections are fully given, and recent advances in endocrinology of interest to the urologist are competently reviewed.

The new edition, as the previous ones, merits full recommendation to the student and to the practitioner. It is noteworthy that this textbook on urology also contains a special part of seven chapters devoted entirely to operative technique.

There are 750 illustrations and a complete index.

H. L. WEHRBEIN.

Fantus' Therapeutics Revised

GENERAL TECHNIC OF MEDICATION. An Introduction to Medicinal Technology. By Bernard Fantus, M.D. Third edition. Chicago, American Medical Association, [c. 1938]. 626 pages. 12mo. Cloth, \$2.00.

The third edition of Fantus' veritable bonanza of useful information needs no introduction or commendation. So far as we know, there is no single volume which even begins to give the practitioner as much handy information about therapeutics as does this book. It is without question a work which should be on every physician's desk.

ANDREW M. BABEY.

A Bacteriological Laboratory Manual

HANDBOOK OF PRACTICAL BACTERIOLOGY. A Guide to Bacteriological Laboratory Work. By T. J. Mackie, M.D., and J. E. McCartney, M.D. Fifth edition. Baltimore, William Wood and Company, [c. 1938]. 586 pages, illustrated. 12mo. Cloth, \$4.00.

The name somewhat belies the character of this popular British handbook now assuming the proportions of a large volume with its 586 pages. Intended as a text for undergraduate usage and mainly as a guide for laboratory bacteriology, it is comprehensive and standard with not extended trips into newer material. The technical detail furnished is great in scope. Numerous organisms have been described, many not usual in domestic texts. It can be used with great benefit by the medical student, but its greater value is for the technician and advanced student in this specialty.

IRVING M. DERBY.

Nutrition of Athletes

DIE ERNÄHRUNG DER OLYMPISCHEN KÄMPFER IN VERGANGENHEIT UND GEGENWART. By Adolf Bickel. Berlin, Deutsche Verlagsgesellschaft M. B. H., [c. 1938]. 35 pages. 8vo. Paper, RM.1.

This brochure of thirty-five pages is an augmented lecture delivered by Professor Bickel at the University of Athens by invitation of that faculty. It is a study of the methods employed in the feeding of Olympic contestants in the days of old classic Greece, and of today.

The brochure is replete with facts, statistics and tables showing comparative values of foods, their chemistry, caloric values, etc., and their relationship to the training of athletes of the Doric and Ionic Age, and those of the present.

This booklet should be of interest to those who are in any way concerned with, or are interested in the training of athletes, whether for the Olympic games or not.

J. HALPERIN.

Glandular Therapy for the General Practitioner

ENDOCRINE THERAPY IN GENERAL PRACTICE. By Elmer L. Sevringhaus, M.D. Chicago, The Year Book Publishers, [c. 1938]. 192 pages, illustrated. 8vo. Cloth, \$2.75.

Note that this title reads "In General Practice." Doubtless the specialist in Endocrinology—we concede it is a specialty—would deery this book as inadequate, and, to him, it is perfectly worthless, but what can the G. P. do if not care for the simple cases in various if not all special lines?

It seems to us that the author has done very well in helping the general practitioner to orient himself as far as he should go in treating this kind of case.

W. D. LUDLUM.

Religion and Medicine in Mental Conditions

THE TREATMENT OF MORAL AND EMOTIONAL DIFFICULTIES. A Practical Guide for Parsons and Others. By Cyril H. Valentine, M.A. New York, The Macmillan Company, [c. 1938]. 148 pages. 12mo. Cloth, 3/6.

The material as given in this small volume, covers the thought of a psychologist in overcoming medical and mental cases with indefinite symptomatology. It is an English conception of the difficulties in such cases and is very conservative in suggestions as to the treatment. In this

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country we are already opening such clinics, both in medical institutions and in various churches, where the clergy, of a psychologic turn of mind, attempts to impart remedial suggestions, etc.

May we follow the statement made by the author that all teachers of this school are not qualified to impart such help, inasmuch as they may destroy belief in religion as understood by the patient, whether that belief is false or if true. Under that condition the last state of the diseased one is worse than the first.

This book is well worth reading, as much truth is contained therein.

EUGENE W. SKELTON.

A New Edition of DeLee

THE PRINCIPLES AND PRACTICE OF OBSTETRICS. By Joseph B. DeLee, M.D. Seventh edition. Philadelphia. W. B. Saunders Company, [c. 1938]. 1211 pages, illustrated. 4to. Cloth, \$12.00.

In this book, now twenty-five years old, DeLee "has done his best to keep the text representative of the obstetric thought of the day, and, he hopes sometimes to have anticipated it." About the same size as its predecessors, new developments in the physiology of pregnancy, toxemias, analgesia and anesthesia, contracted pelvis, endocrinology, and associated medical conditions are included in this latest revision. As usual the text is profusely and admirably illustrated.

DeLee's vast experience as a teacher at Northwestern and the University of Chicago, to say nothing of his forty-four years of active practice, and his skill as an author have qualified him extraordinarily well for the task of writing the textbook which though not all inclusive, is easily in a class by itself. Never behind the times, it seems that he was the pioneer in the use of the all important mask in obstetric practice, though he does not include this important date in the chronology which is part of his book. Miles H. Phillips gives him credit for this, and says he is known at the moment to the American lay press as "Number One Obstetrician, U. S. A." But for that matter DeLee does include in this list which is largely taken from Stoeckel, the all-important research dates of Lancefield and the Colebrooks.

Equally important for the student

which includes the specialist and the general practitioner, this book is outstanding.

CHARLES A. GORDON.

Short Treatise on Physiology

A SYNOPSIS OF PHYSIOLOGY. By A. Rendle Short, M.D. and C. L. G. Pratt, M.D. Third edition. Baltimore. William Wood and Company, [c. 1938]. 325 pages, illustrated. 12mo. Cloth, \$3.50.

Exactly as the title implies, this is a synopsis. It is primarily designed as a cram book for examinations. As a result it is in outline form. Many of the statements are condensed to an extreme. The summary might be of value to one who has drifted far from modern physiology and wishes a superficial knowledge or a collection of facts.

GEORGE B. RAY.

A Biosocial Approach to Psychopathology

MODERN SOCIETY AND MENTAL DISEASE. By Carney Landis, Ph.D. and James D. Page, Ph.D. New York. Farrar & Rinehart, Inc., [c. 1938]. 190 pages. 8vo. Cloth, \$2.50.

This book brings the light of significant facts to the understanding of the present status and trends relative to mental disease as a problem of society.

The data which make possible the authors' conclusions (pages 151-160) are not only based upon a critical study of "mental disease in American population groups," but also from first-hand experience gained by one of the authors in travel in most of the European countries where pertinent officials and physicians connected with mental hygiene departments were interviewed.

The contents encompass an unusually clear presentation based upon logical and graphical representation of data relative to the nature and classification of mental diseases, its prevalence, relative incidence in urban and rural environment, the effect of education and economic status on mental disease, as well as marriage, heredity and sterilization, and the possibilities of eugenics.

The conclusions indicate that the basic etiological factors of mental disease are physiological and constitutional rather than psychological; that the changing standards of living in the past quarter century have had but slight effect upon the incidence rates; that in view of the fact that the annual number of admis-

sions to state mental hospitals is greater than the annual number of discharges and deaths, new hospitals must be built constantly to take care of an increasing hospital population, although this will be modified according to the espousal of various types of extra-hospital care such as nursing homes, placement in private homes and colonies.

While the reduction of mental disease is the ultimate aim, the authors offer little encouragement through such methods as sterilization and "genetic control" with respect to the manic depressive and dementia praecox groups. Further scientific research is offered as the way out. An opportunity, and, therefore, an obligation lies in ameliorating the environmental (physical, social, economic and emotional) stresses and strains which make for, in combination with other factors, an increase of mental illness in varying degree and type. To this end, society and government must recognize and deal practically with the possibilities of social amelioration, old-age care, social security, and non-urbanization.

The book is a gold mine of facts and critical opinion which no one interested in the field of psychopathology can be without.

FREDERICK L. PATRY.

Short Wave Therapy

THE MEDICAL APPLICATIONS OF THE SHORT WAVE CURRENT. By William Bierman, M.D. Baltimore, William Wood & Company, [c. 1938]. 379 pages, illustrated. 8vo. Cloth, \$5.00.

Medical Applications of the Short Wave Current by William Bierman, M. D. including a Discussion of the Physical and Technical Aspects by Myron Schwarzschild, M. A. is divided into two parts.

Part 1. The fundamental considerations—Physics, Temperature determinations in the Living Human, Physiological responses and Specificity. Part 2—Clinical consideration—Technique, Introduction to clinical applications, and clinical applications.

In Part 1, Physics, the author is a physicist, he tries to make it an easy readable chapter for a physician, but it is a chapter which will possibly be utilized for reference only. The chapter on

temperature determinations although entailing considerable work by the author is another such chapter. The rest of the book is very meaty. It is a commentary of viewpoints of varied authors. The divergent opinions of these authors are given full scope. The author with his wide experience on short wave therapy also offers his own viewpoints. The subject is a mooted one at the present time.

In the chapter on Clinical Applications, the widespread use of this treatment is evidenced, as there is hardly a field in medicine which is not covered.

JOHN J. HAUFF.



Revision of Peter's Visual Fields

THE PRINCIPLES AND PRACTICE OF PERIMETRY. By Luther C. Peter, M.D. Fourth edition. Philadelphia, Lea & Febiger, [c. 1938]. 331 pages, illustrated. 8vo. Cloth, \$4.50.

Previous to 1916, it was extremely difficult for the student of ophthalmology to select appropriate reading, particularly in perimetry. To be sure, some of the foreign language books were available—and Norris and Oliver's section was elaborate. The debatable nature of the material presented, however, made the reading difficult for the beginner and was confusing to the advanced student.

Dr. Peter's peculiar faculty of logical arrangement made very useful even the first edition of his work. The reviewer found it possible to make a precise outline from it, and it speaks well for Dr. Peter that the present edition maintains the logic and sequence of presentation which still enables the student to outline each chapter. The added material is very much worthwhile and it is obvious that every effort has been made to avoid material of a debatable nature. The reviewer uniformly recommends Dr. Peter's work as the basic text for students of perimetry. The subject has grown sufficiently since the preceding edition of Dr. Peter's book to warrant the purchase of the present volume.

JOHN N. EVANS.

Practical Manual on Anesthesia

MODERN ANAESTHETIC PRACTICE. Edited by Sir Humphry Rolleston, M.D. and Alan A. Moncrieff, M.D. (The Practitioner Handbooks). London, Eyre & Spottiswoode Ltd., [c. 1938]. 231 pages. 8vo. Cloth, 10/6.

A series of short articles on anesthesia, published originally in *The Practitioner*, has been expanded by their authors into twelve separate chapters on the subject, and apparently written for the instruction of the general practitioner. The writers are well-known anesthetists of Great Britain, and evidently speak from their own experiences. Whether they represent the majority opinion of the craft in the United Kingdom a reviewer in a foreign country may wonder; in one chapter the technique of nitrous oxide saturation in the McKesson style which we agree with the author presents a "picture alarming and unpleasant" is gone into with great detail for a book intended for general use, while the discussion of local anesthesia shows little enthusiasm for the method compared with the American attitude on the subject.

This is a practical book, devoted to the every day problems of the anesthetist, and takes only as much time to discuss theoretical matters as is necessary to make the right solution. However, it is interesting and instructive to read the experience of the leaders in British anesthesia with these modern methods, and find that the practice of anesthesia follows the same general course in other parts of the world.

GEORGE W. TONG.

English Translation of Henle's Infections

JACOB HENLE: ON MIASMATA AND CONTAGIA. Translated by George Rosen, M.D. Baltimore, The Johns Hopkins Press, [c. 1938]. 77 pages. 4to. Paper, \$1.00.

The Johns Hopkins Press deserves the thanks of the English-speaking medical profession for making this excellent English translation of Henle's monumental work available to them. Internists, bacteriologists and epidemiologists will be especially grateful for this rescue of a classic from comparative obscurity. Dr. George Rosen of Brooklyn has rendered the rather difficult original into remarkably readable English, and has contributed a valuable introduction.

MILTON PLOTZ.

MEDICAL TIMES, MARCH, 1939

Boyd's Surgical Pathology Up-to-Date

SURGICAL PATHOLOGY. By William Boyd, M.D. Fourth edition. Philadelphia, W. B. Saunders Company, [c. 1938]. 886 pages, illustrated. 8vo. Cloth, \$10.00.

This is a thoroughly revised fourth edition of a well-known text on the subject. The author is an outstanding writer in this field, and possesses the happy faculty of stating pathological facts with lucidity, even if this be at times associated with undue dogmatism. The book amply fulfills the requirements laid down in the Foreword, in that it is a very fitting "handbook to the surgeon, and the internist, and a guide to the beginner in the field of medicine."

Among the new subject matter, are sections dealing with lymphogranuloma inguinale, glomus tumor and regional ileitis, as well as the group of ovarian tumors comprising granulosa cell tumor, Brenner tumor and arrhenoblastoma. It is regrettable that, in dealing with this last subject, information on the new histological grouping of ovarian tumors is insufficient, but this is due in no small measure, probably, to the need for brevity in a single volume of this kind.

It is pleasing to note that sufficient attention has been paid to thrombotic phenomenon, a most frequent post-operative complication. The relationship of hypothalamic lesions to gastric ulcer is mentioned. To the reviewer, the subject of endometrial hyperplasia has been all too briefly handled, as it takes no cognizance of the recent advances in the study of this phenomenon in its relation to hormonal imbalance. This will no doubt be rectified in a future edition.

In the field of tumors, new material has been added in respect to the experimental production of cancer and the etiology of tumors in general. The chapter dealing with diseases of the bone in general, and tumors of the bone in particular, is replete with information, some of which is quite new. Ewing's tumor of the bone receives the description that it deserves.

The book is amply illustrated. It is felt, however, that many of the diagrammatic photographs could give way to gross and micro-photographs of actual lesions to accompany the other numerous actual photographs of disease processes, of which there are many excellent examples in this edition.

An especially valuable feature of the text are the numerous references for further study found at the end of each chapter.

The book can be highly recommended to the student wanting a basic training in this subject.

T. J. CURPHEY.

Bray's Laboratory Manual Revised

SYNOPSIS OF CLINICAL LABORATORY METHODS. By W. E. Bray, M.D. Second edition. St. Louis, The C. V. Mosby Company, [c. 1938]. 408 pages, illustrated. 16mo. Cloth, \$4.50.

The second edition of this little volume presents the most recent information and the most frequently used methods of laboratory diagnosis. To begin with there are suggestions of the laboratory tests which may be of value in certain diseases. The description is brief but adequate, and unimportant details are omitted. In the chapter on urinalysis,

aside from the routine examinations, are such tests as; hydrogen-ion concentration, kidney function, phthalein elimination curve, vitamin C titration, and test for pregnancy. The chapters dealing with hematology, and bacteriology are even more replete with the most recent methods, and include among many others, such as: serum phosphatase determination, titration of staphylococcus antitoxin in blood serum, methods for measuring erythrocytes, determination of sulphani-lamide in the blood, opsono-cytophagic test for determining the immunity status in undulant fever, cough plate for diagnosis of whooping cough, and many others too numerous to mention. There are also chapters dealing with gastric analysis, sputum, water and milk examinations, serology, basal metabolism, allergy, poisons, and surgical pathology. On the whole the book is very interesting.

EDWARD H. NIDISH.

BOOKS RECEIVED

for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

SUPERFLUOUS HAIR AND ITS REMOVAL. By A. F. Niemoeller, A.B. New York, Harvest House, [c. 1938]. 155 pages, illustrated. 12mo. Cloth, \$2.00.

BODY MENDERS. By James Harpole. New York, Frederick A. Stokes Company, [c. 1939]. 296 pages. 8vo. Cloth, \$2.75.

LIFE'S BEGINNING ON THE EARTH. By R. Beutner, M.D. Baltimore, The Williams & Wilkins Company, [c. 1938]. 222 pages, illustrated. 8vo. Cloth, \$3.00.

THE ESSENTIALS OF MODERN SURGERY. Edited by R. M. Handfield-Jones, M.D. and A. E. Porritt, M.A. Baltimore, William Wood & Company, [c. 1938]. 1126 pages, illustrated. 4to. Cloth, \$9.00.

EVERYDAY SURGERY. By Lambert Rogers, M.Sc. and A. L. d'Abreu, M.B. Baltimore, William Wood & Company, [c. 1938]. 280 pages, illustrated. 8vo. Cloth, \$4.75.

THE RELATION BETWEEN INJURY AND DISEASE. By Jewett V. Reed, M.D. and Charles P. Emerson, M.D. Indianapolis, The Bobbs-Merrill Company, [c. 1938]. 577 pages, illustrated. 4to. Cloth, \$7.50.

MENTAL DISORDERS IN URBAN AREAS. An Ecological Study of Schizophrenia and Other Psychoses. By Robert E. L. Faris and H. Warren Dunham. Chicago, University of Chicago Press, [c. 1939]. 270 pages, illustrated. 16mo. Cloth, \$2.50.

SURGICAL PATHOLOGY OF THE DISEASES OF THE MOUTH AND JAWS. By Arthur E. Hertzler, M.D. Philadelphia, J. B. Lippincott Company, [c. 1938]. 248 pages, illustrated. 8vo. Cloth, \$5.00.

THE GENETICS OF SCHIZOPHRENIA. A Study of Heredity and Reproduction in the Families of 1087 Schizophrenics. By Franz J. Kallmann, M.D. New York, J. J. Augustin Publisher, [c. 1938]. 291 pages, illustrated. 8vo. Cloth, \$5.00.

THE PROCEEDINGS OF THE CHARAKA CLUB. Volume IX. New York, Richard R. Smith, [c. 1938]. 204 pages, illustrated. 8vo. Cloth, \$5.00.

THE LANGUAGE OF THE DREAM. By Emil A. Gutheil, M.D. New York, The Macmillan Company, [c. 1939]. 286 pages, illustrated. 8vo. Cloth, \$3.50.

A MANUAL OF FRACTURES AND DISLOCATIONS. By Barbara B. Stimson, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 214 pages, illustrated. 12mo. Cloth, \$2.75.

PRINCIPLES OF HEMATOLOGY. With 100 Illustrative Cases, and 155 Illustrations Including 168 Original Photomicrographs and 95 Original Charts and Drawings. By Russell L. Haden, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 348 pages, illustrated. 8vo. Cloth, \$4.50.

You may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the MEDICAL TIMES, 95 Nassau Street, New York, N. Y.

Editorials

*Frank K. Boland,
D.Sc., M.D., F.A.C.S.*

IT IS a pleasure to announce that Professor Boland, of Atlanta, Georgia, has joined our Board of Contributing Editors. Aside from the distinguished place which he holds in American surgery, Dr. Boland has taken great interest in the historical and cultural phases of medicine and is curator of the Atlanta Historical Society and President of the Crawford W. Long Memorial Association. The aim of the latter organization is to perpetuate the glory of the Georgian Long as first to employ ether anesthesia in surgery (March 30th, 1842), one of the two most valuable contributions to medicine of the nineteenth century, the other, of course, being that of Lister.

The Doctor's Income Tax

INCOME tax imposition upon the doctor, as the law now operates, constitutes an undemocratic class distinction and should be abrogated as such. For needed services bestowed upon indigent citizens, no recognition is accorded him; indeed, he is discriminated against because what to him is a grievous economic loss in the present world's parlous state—a loss not suffered by other men—cannot be introduced into the computation of his income tax, state and federal.

Instead of direct payment for the vast amount of care bestowed upon the poor in hospitals, clinics and elsewhere, with



**ESTABLISHED
IN 1872**

necessary addition through such a mode of payment to the already top-heavy bureaucratic machine, certain corresponding deductions from income tax computations should be allowed the physician.

This is by no means a plea for exemption from the income tax (as en-

joyed by so many holders of governmental offices), although in some instances of great service complete exemption would be proper enough. We are not suggesting the bestowal of special privilege, the country's curse in the past, but merely the application of simple honesty and justice.

Modern Finance

THE New York City Department of Health required twelve girls as laboratory helpers at \$960 per annum. Newspaper photos showed mobs of girls who waited all night to be the first in line, and it is said that there were over four thousand young women seeking the chance to obtain this type of employment. It is also said that the Civil Service Commission undertook to collect \$1.25 (\$1.00 examination fee and twenty-five cents for notarization of the applications) from each of the applicants. According to our figuring the amount sought from the applicants, if fully collected, should support the twelve successful candidates for about twenty-four weeks. Not a bad business proposition.

—M.F.T.

The Trend of the Times

A MAD world, adrift from traditional moorings, and bent upon the institution of weird policies and techniques, may be expected to attempt experiments with euthanasia, legalized abortion and infanticide, for nothing is sacred to the so-called modern mind.

We shall start with euthanasia, cautiously and conservatively, but any kind of a beginning will serve as a fulcrum of great potentiality; the possibilities are fascinating.

Every argument for legalized abortion is a brief for infanticide; and one is no more barbarous than the other, a truth which no sophistry can confute, for the objectives are exactly the same. Infanticide, however, should be the preferred technique, for it would spare the mother the greater risks of abortion as regards morbidity and mortality. Why hazard maternal infection, endocrine mischief and what not, when the mere killing of a baby would insure relative safety? And there is no essential difference in the destruction of an organism at three months of gestation or at nine months. Our vote goes for infanticide.

No more incredible than the foregoing possibilities is the effort to inflict upon

society political, bureaucratic and lay schemes for ordering the practice of medicine; here, despite the shortcomings of the present system of practice, we have the last failure of vision, the last measure of immature and irresponsible thought.

All of these steps are in consonance with the "morals" and the bizarre "statesmanship" of the day. Such is the trend of the selfish and humorless times.

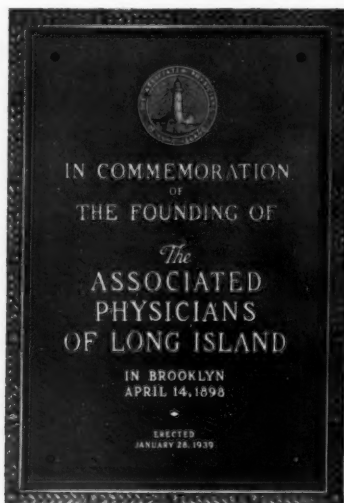
Medicine Marches On!

ACCORDING to an Associated Press dispatch of February 20 from Berlin the German government has licensed "healing practitioners", meaning "healers" who are without regular medical training and hitherto, of course, ineligible for a license to practice.

"Heilpraktiker" is now the official designation of persons possessing an "intuitive ability" to cure the sick. They must be more than twenty-five years of age and have had three years of successful work in healing.

Such a trend as this is a measure of the personality types now in power, as well as a portent of the future of medicine in their domain.

The Associated Physicians of Long Island



Bronze plaque unveiled in the foyer of the Kings County (Brooklyn) Medical Society building on January 28, 1939, commemorating the founding of the Associated Physicians of Long Island on April 14, 1898.

SILENT

Coronary Occlusions

CHARLES M. COOPER, M.B. (Edin.)*

San Francisco, California

THE knowledge of the symptomatology and of the clinical and electrocardiographic findings associated with acutely occurring, frank cases of coronary occlusions is so well disseminated that these occlusions are nowadays generally recognized and intelligently treated.

Further, it is becoming more and more recognized that many patients who are so afflicted become able after sufficient rest to resume their work and to lead useful lives for many years.

Less well recognized is it—

1. That patients can develop the electrocardiographic changes that we associate with coronary occlusions, as a result of sicknesses which seem to them to be of minor importance, and for which they stay in bed, at most, only a few days.

2. That some patients who for years have experienced constrictive chest pains, but who have presented normal or questionable electrocardiograms, develop characteristic electrocardiographic changes, without noticing any change in their symptomatology, and whilst they are up and around.

3. That some patients, between the check-ups for which they periodically come, develop such electrocardiographic changes, without, according to their assertions, having experienced any sickness which has incommoded them and without having had any suggestive symptoms.

These changes evidently will only be discovered if electrocardiograms are routinely made as a part of the periodic examinations for which patients come.

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If this be done, the clinician will often be able to suggest salutary changes in the patients' habits and mode of life earlier than it would otherwise be possible. Unfortunately, it is more difficult to get these patients to hew permanently to the line than it is to get cooperation from those who have experienced coronary occlusions which have necessitated prolonged bed rest.

If, however, they desire to lessen the risk which such electrocardiographic changes portend, it is essential that they, too, live within the field of their cardiac response, both in their work and in their play.

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SCIENCE AND THE CANCER PROBLEM

Science, as we know it, is a solid structure but the scientist who builds upon it is a man and as a man is at the mercy of his social environment. That is the frail structure and the scientist is no stronger than its strength. German thought of a century ago rose as I have traced from speculation to productive science; within our time it fell again. These things are not of one country, or of one race, or of one century. They are universal and eternal. And so I say again, barring the social cataclysm that will dislodge the scientist, the way is clear and open to the discovery of cancer causation. —H. W. Haggard, M.D. In *Bulletin of The New York Academy of Medicine*, Apr., 1938.

THE ROLE OF

Diseases of the Sinuses

IN GENERAL MEDICINE

ROBERT F. RIDPATH, M.D.

Professor of Rhinology
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Philadelphia, Pa.

MEDICINE in some form is in all probability as old as recorded history. From the use or administration of herbs or mineral substances concocted by so-called witches and witch doctors we have now arrived by the slow process of evolution at the modern concept of medicine.

From the guesswork of the primitive doctors we have arrived at scientific diagnosis; in fact, we have progressed further, for, instead of treating the sick patient, we now work toward preventing his illness; in other words, we now have discovered preventive medicine.

And along the road toward this end we have traveled for quite some time, frequently stumbling and hesitating over so-called focal infection. Just as the concept of focal infection has been the means of change of thought with internal medicine, so the concept of focal infection has also been responsible for the patterns of thought in modern otolaryngology. Formerly the upper respiratory tract and the ear were considered as isolated structures; now with our newer concept the emphasis is upon the fact that the upper respiratory tract and the ear are not isolated but that they form part of the organic whole and that the specialty of otolaryngology involves a thorough and intimate knowledge of general medicine. This thought has been the

means of extending the former territorial narrowness of the specialty and has thus enlarged our scope of thought to include the whole system. But there has been a dearth of material both of an experimental and actual nature to demonstrate the mechanics of the phenomena of this phase from the standpoint of histopathology, bacteriology, biochemistry and biophysics.

BEGINNING often in early childhood the insidious trail of upper respiratory tract infection may be traced through the lives of its victims—lowered efficiency; moral, mental and physical degeneracy; chronic invalidism and even an untimely end are too often the results.

Absorption of bacteria into the blood and lymph vessels of the mucosa lining the sinuses takes place and so infection in remote parts of the body occurs. Hematogenous infection occurs when the infective material drops down from the postnasal areas into the trachea and esophagus.

Secondary infections may occur anywhere in the body. The recovery of organisms elsewhere, identical with those in the sinuses or nasal chamber, has been demonstrated time and time again.

Acute or chronic sinus infections may act as foci of infection. Bacterial invasion of the blood or lymph streams from a primary focus of infection such as the sinuses may produce a fulmina-

Read before the Interstate Postgraduate Medical Assembly, Philadelphia, Pa., 1938.

tive infection in the form of bacteriemia, with multiple localized infections due both to the high degree of virulence of the organisms and the general lack of resistance of the tissues against the infection. Metastasis to special tissues, dependent on the disseminative factors governing the secondary localization of the bacteria, may produce acute local inflammatory reaction.

MANY aids of which we are all cognizant and familiar with must be used in the study of these infections. It is not sufficient to be satisfied with the macroscopic and cytologic examinations. These should and must be augmented by a blood investigation in all its phases and a thorough bacteriologic study of any and all secretion or discharge from the various parts of the ear, nose and throat. Many occasions will also occur when the spinal fluid contents, as well as pressure, must be considered. The x-ray is always of value, not only from its possible aid in diagnosis but more frequently because of the visualization of the anatomical relationship as seen by the shadows. Aid should be asked from the ophthalmologist for eyeground readings and pressure valuations. Neurological findings are of great value.

A thorough history from all standpoints must be taken, this to include the family history, maternally and paternally. Heredity, I believe, is a decisive factor in upper respiratory infections. In innumerable instances I have observed sinusitis in every member of the family and occasionally in every member of two generations. This has been well brought out in atrophic rhinitis. Whether many other conditions can be accounted for by inherited lack of immunity, or some as yet unknown inherited potentiality, will unquestionably be determined at some later date. Inherited lack of immunity in specific types of tissue may explain many of the characteristic and frequent appearances in infancy. These infections in infancy and childhood with seemingly chronic tendencies must be viewed with an open mind and not passed as due entirely to vitamin deficiency, endocrine imbalance, allergy, improper housing or climatic environment. Many other questions such as the physical and chemical factors must also be considered,

e.g., the indiscriminate use of nasal medications and our overheated and dry atmosphere in the modern houses.

ORBITAL complications arising in the train of acute or chronic sinus disease are elements that require urgent attention. I have had several patients in whom blindness occurred suddenly, either complete or unilateral. Unilateral eye involvement is very significant of a focal cause. Bilateral involvement points more to a general, usually a metabolic, cause. When a sudden loss of vision takes place, something must be done immediately, first to find the cause and second to restore the sight, if possible, as the longer we postpone our treatment the less likely we are to succeed. I recall several cases in which following a careful examination the sphenoidal sinus was opened and within a comparatively short time vision returned. Case after case could be cited in which diplopia and even polyopia have been entirely cured by the eradication and elimination of the causative focal factor of the condition.

Enlargement of the blind spot is a more or less frequent condition found. Orbital abscess, the result of foci in the nasal chamber, is easily traceable to the anatomical relationship of these structures. Starting as an attack of acute rhinitis, extension either direct or by blood stream through the smaller venules takes place, the soft tissue around the orbit quickly changing to an orbital cellulitis and then to the typical orbital abscess, the process taking an essentially quicker turn should a dehiscence be present. I feel that orbital complications more frequently occur from acute involvement of the sinuses, whereas ocular complications are more apt to result from the chronic or concealed type of infection in which we have very little evident discharge. Many sphenoids have been opened by me in which no pathology macroscopically could be demonstrated and yet all the subjective symptoms pointed to the sphenoidal area. Two surprises await one in these cases, the first, that following the opening of the sphenoid no demonstrable pus is seen, and the second is an almost immediate relief and cessation of all symptoms. This has occurred so frequently that in a paper on

sphenoid symptoms read in Atlantic City before the American Laryngological, Rhinological and Otolological Society in 1927 I included it in the text. An explanation of this most virulent type may be that there is a closure of the ostium with an anaerobic infection. The admittance of air into the cavity effectually relieves the vacuum, the relief being immediate.

IF we visualize our field of research along the trail of sinus infection we enter the domain of medicine and surgery in practically all its departments. The gastro-intestinal tract from its oral opening to the anus and rectum may and does feel the effects of chronic sinus infections. I have no doubt in my mind that my own appendicitis was the result of a sinus infection, and I recall vividly the lump of infectious material which, due to strenuous horseback riding, slipped down into my esophagus. Three days later I was operated on. The appendix the surgeon claimed was mine was one of the worst looking things I have ever seen. I didn't claim it and in fact wouldn't recognize it.

We usually consider intestinal and related infections arising from sinus infections as involving (1) the appendix, (2) the gallbladder, (3) the kidney. It is true, however, that we can have a chronic gastritis, gastric and duodenal ulcer, infected Peyer's patches, pancreatitis and many other conditions. All of these we have seen and we feel the clinician and surgeon should have a careful and thorough examination of the upper respiratory tract made whenever a question of the invading organism or cause of the condition is clouded.

The intimate relationship between lung conditions and sinus disease has resulted in a reclassification of lung pathology. Bronchitis and bronchiectasis are frequently secondary to infections of the sinuses. Infectious material by gravitation drops into the larynx and lower bronchial tree, reaching in many instances the alveoli. The lower respiratory tract may also be invaded by way of the blood and lymph channels primarily infected from the sinuses. In the so-called chronic tuberculosis with negative sputum the basic cause can often be traced to the chronic sinusitis perhaps

existent from childhood. We have frequently seen a chronic maxillary sinus give the typical picture of tuberculosis, cough, night sweats, debility, emaciation and rise of temperature all being present. The clearing up of the infected sinus would be followed by alleviation of all the symptoms and recovery of the patient.

Selected types of asthma are unquestionably due to sinus involvement. Other cases of this most unpleasant and frightening malady are traceable to polyp formation within the sinus cavities or the nasal chamber. Those whose infection is of a chronic form or those who have frequent flareups of infective nature resulting in this sequela show a chronic tracheobronchitis or even a definite lung suppuration. And although it seems from the experience of many rhinologists that polypi may of themselves, through pressure and obstruction, produce asthma, my personal experience points to the fact that, insofar as our cases were concerned, we always had associated suppuration along with the hypertrophies or polypi formation. We are, therefore, faced with the fact that patients suffering from asthma should all have a thorough upper respiratory examination. To prescribe for this type of case without it is utter folly.

Please do not misunderstand me when I express the thought that this or any other condition or disease mentioned in this presentation is essentially always of sinus origin. That would be just as great a mistake or folly as for you not to consider the sinuses as one of the possible factors in each patient. Latent sinusitis is subject to exacerbations known as acute colds, rhinitis, coryza and low grade influenza, and is frequently accompanied by toxic symptoms. It is during such periods that infection is liable to start. In some instances these exacerbations may be so slight that the patient is scarcely aware of them. This latency may result in the underlying factor being overlooked and unless a competent rhinologist is called in and a thorough sinus examination made the condition goes from bad to worse—in all probability with a serious sequela.

ACUTE and chronic infectious arthritis may occur from low grade infections of the sinuses. A hematogenous infection is the usual route by which the joint or joints are reached. The type of pathology seen in the joints is due to the bacterium itself, and any metabolic changes are in all probability secondary manifestations. Relief and elimination of the infection, with healing, has been noted by many workers, including myself, when the focus has been found in a sinus. You notice I use the word "sinus," as my experience has been that should the upper respiratory tract be at fault, the maxillary sinuses are those from which the absorption tends toward this particular condition. I feel the sinuses have not been given the place they merit in the etiology of arthritis, being overshadowed by the tonsils, teeth, and intestinal tract. We are very cognizant that tonsillar involvement of long standing almost invariably begets chronic sinusitis. This may be the explanation for some of the failure to cure various related conditions, especially arthritis, by tonsillectomy. Only part of the infection has been considered or removed

Lymphadenitis

DUE to infection of the lymph nodes with resultant hyperemia and exudation from bacterial infection, cervical lymph adenitis results. Although we see this condition as a frequent manifestation in many of the exanthemata, many cases, if not all, are the result of the invading organism attacking the mucosa of the sinuses with resultant adenitis. Should the invading organism be of the so-called low grade virulence then they—the lymph nodes—may act as secondary foci of infection.

Pericarditis

ACUTE or chronic pericarditis from infection of the sinuses has been noted by many workers along these lines, or it may be a sequela of an embolic spread of endocarditis from sinus infection.

Myocarditis

MAY be due to the effects of toxins or arise from local effects of the invading organisms themselves.

ALTHOUGH chorea has been recognized as of bacterial origin, I have not seen any cases that could be definitely traced to the sinuses, but have seen many cases due to tonsillar infections.

Many reflex signs and symptoms are noted associated with upper respiratory infections such as sneezing, coughing, vomiting, pain, hoarseness, snoring, vertigo and tinnitus aurium. All of these may occur in violent paroxysms, or they may be mild but continuous, often exhausting the individual.

Infection of Nerve Tracts

DUE in all probability to changes in the nerve cells and fibers caused by bacterial emboli in the terminal blood vessels, causing interference with the blood supply, and by the action of the bacterial endotoxins, invasion of the spinal cord by hematogenous bacterial infection may be the cause of myelitis.

Invasion of the posterior ganglia with their nerve trunks has been definitely traced as a cause of herpes and other skin manifestations of like nature.

Osteomyelitis of the frontal and maxillary bones is seen all too frequently as a sequela to sinus involvement. Many cases involving the whole frontal plate, reaching almost to the midline or vertex, have been operated upon by me. With few exceptions—if any—this would not have occurred if the diagnosis of a possible sinus infection had been made early enough.

Meningitis of nasal origin is a very serious condition. I have seen only one recovery. I am speaking of a true meningitis. We frequently have meningeal irritation or so-called meningismus, which cases recover, but to repeat, a true meningitis of nasal origin is a very serious condition and in spite of any and all treatment in my hands is with the exception of the case quoted 100 per cent fatal.

THERE are really three factors, anatomically, to be considered in the rapid termination of these cases with regard to the avenues followed and the regions invaded by the infection. First, that resulting from infection of the ethmoid

—Concluded on page 163

THE VALUE AND LIMITATIONS OF *Plastic* OPERATIVE PROCEDURES

ALBERT D. DAVIS, M.D., F.A.C.S.

San Francisco, California

A FEW years ago practically every daily newspaper carried in its Sunday supplement a full page or a double page story of the wonders achieved in plastic surgery. That many of them were of questionable value, and more than questionable in veracity, is a known fact—but the public was interested and plastic surgery was “news.” If a prominent character was involved the story had great news value; if a notorious person went to a plastic surgeon and the story broke into print, it was a feature story. Most of us recall the stories circulated concerning Jack Dempsey’s nose, Peaches Browning’s legs, Lady Diana Manners’ face, Aimee Semple McPherson’s rejuvenation operations and many others. During this time many physicians abandoned the general practice of medicine, moved to new locations, and without further qualifications announced themselves as plastic surgeons, hoping to benefit by the interest created. The charlatans reaped a harvest! Reporters were received with open arms. Human interest stories were created. “Before” and “after” pictures were featured, and the readers became “plastic surgery-conscious.”

Suddenly there came a lull in publicity. One of the “wonder-workers” had made a mistake and was being sued for a large sum of money. His patient, a Miss S. H., had had to have amputation of both legs as a result of an attempt to cure her bowed legs. The blood supply had been cut off, and gangrene resulted from a streptococcal infection. A report in the *Journal of the American Medical Association* stated that x-ray pictures revealed no bowing of the bones in any

way, and that the operation accomplished no purpose whatsoever. Another report in the same journal disclosed that the surgeon whose name had been emblazoned upon many newspaper pages had never graduated from a medical school, but had obtained his license under forged credentials. After the revocation of his license the feature stories became sporadic and interest lagged. About this time Frederick L. Collins came out with an article in *The Delineator* entitled “The Truth About Face Surgery.” Unfortunately his article was much like some of the other stories and centered around a “wonder-surgeon.” To quote a small portion—“The man’s customers not only come to him from many walks of life, but for many reasons. A man loses his nose in an automobile accident. It is nothing. The Doctor sends over to the stockyards for just the right piece of bone, sticks it in the man’s face, builds a nose around it, and sends him out handsomer than he was before the accident!” Other statements in this article were of like caliber.

Since then various stories and moving pictures have been seen with plastic surgery as the motif. But not till the death of Dillinger and the discovery of the changes of his fingerprints and facial features was public interest revived.

RECENTLY, a New York surgeon performed what he designated a “personality” operation. According to the newspaper story, he set up an operating chair on a stage at the Hotel Roosevelt and proceeded to change a young lady’s face before one thousand beauty experts. (The girl was twenty-two years old.) “The patient walks into the ‘personality shop’ and selects the kind of face she would like to have to suit her personality. Acting upon her suggestions the Doctor

then models an ideal profile, and he follows this during the operation. The operation was unique in medical practice. A pianist pounded away at a piano, Kleig lights blazed, and press photographers let off great flashes during critical parts of the operation. The Doctor worked away, making incisions here, removing long strips of flesh there—following the ideal model which a nurse held up for him. Meanwhile the pianist rendered such appropriate tunes as, 'As You Desire Me,' 'I'll See You Again' and ended up with 'Beautiful Lady.' Discussing his work afterward the Doctor said, 'You see I'm an artist rather than a surgeon. I model in human flesh. If this thing succeeds, plastic surgery will have reached perfection! I refuse to work on men. Usually they are criminals who want me to change the Bertillon measurements of the head.'

While these stories sound somewhat weird to most of us it is surprising to discover how many people believe them to be absolutely true.

THERE are decided limitations to plastic surgery. Many of our patients come to us with the firm belief that scars will not result if the operation is done by a plastic surgeon. Would that this were possible! For many years surgeons have sought means of overcoming scar tissue. Up to date, there is no known remedy. The plastic surgeon *can* and *does* attempt to make unsightly scars and blemishes less noticeable, but to leave no scar is impossible. Patients believe that if a birthmark, a large mole or other nevus is present, the surgeon is able to cut away the disfigurement, take a piece of skin from some other part of the body, place it over the defect and obtain a perfect result that defies detection. This is true up to a certain point, but too often the outlined edges are discernable for many years. If properly done, and the skin selected from areas which have the same relative thickness, color and texture, the result may be a wonderful improvement over the original condition, but the close observer may still find traces of the operation. Burns represent one of the most common injuries to mankind. In severe burns we are often approached by well meaning friends or relatives of the patient with offers to

give skin from their own bodies to cover the denuded area. This offer must always be refused because skin from one individual cannot be used on another individual with a successful result. Even those whose blood grouping or "types" would favor them as donors for transfusion are useless as skin donors. In many instances a primary "take" occurs in the grafted area, but the donor-skin gradually fades away and disappears, leaving a scarred surface devoid of epithelium. This unfortunate condition holds true in the replacement of other tissues as well as of skin, although cartilage has been successfully transplanted from one individual to another. The permanence of such procedures is, however, highly questionable, and unless some excellent reason exists for substitution the restoration should be made with the patient's own tissues.

THE present-day tendency to save time and shorten convalescence by the use of cartilage acquired from accident victims at the morgue or postmortem rooms is to be held in disfavor until proved otherwise. Foreign bodies such as celluloid, vulcanite rubber, silver wire, cast gold, ivory or ox-bone, etc., may give a splendid primary result, but usually nature rebels, and they are extruded from the tissues. At one time paraffin was used extensively to build up depressed noses and to plump out bony contours or wrinkled areas about the face. Unfortunately, this preparation becomes encysted and sometimes results in a tumor formation which often becomes malignant. Too often it moves by gravity into unsightly positions and cannot be removed without extensive scarification and skin loss. For one to believe that stockyards could supply the "right piece of bone, have it stuck in the man's face, and send him out handsomer than ever" is, of course, pure fiction. Another limitation placed upon plastic surgery is the formation of that peculiar raised type of scar called keloid. In certain individuals, and more particularly in the colored races, every wound heals with a heavy mass of scar. This appears to form either a long cord of connective tissue along the line of the wound or an irregular dense overlapping mass. Much research work has been done to solve the problem of keloid formation,

but at the present time it remains a mystery. When it is excised surgically it more than likely will recur larger than ever. The use of x-rays oftentimes modifies it to some extent, but the prognosis for a good result is poor in the true keloid case.

Wide scars may be converted into small line scars, and, when it is possible to place them in normal skin folds, they often blend into the surrounding skin so that in time they become almost invisible.

THE restoration of lost parts, either in whole or in part, is an everyday problem in plastic surgery. Noses, ears, eyelids, scalp, lips, fingernails, cheeks, jaws, breasts and sometimes certain digits of the hand are reconstructed. More than often, if a good result is obtained, these may be overlooked by the casual observer, and the patient feels no embarrassment, but how many times has the plastic surgeon wished that these living tissues might be clay to which a little might be added here, a little taken away there, or raised or lowered or contoured to just the right proportion! Nevertheless, it is astonishing what an improvement a well constructed surgical nose or ear is over none at all, and what a difference it makes in the patient's outlook. While some of these cases require a series of operations for restoration, the modern plastic surgeon attempts in so far as possible to limit himself to tissues for reconstruction which will create the least deformity or blemish to the donor areas. In other words, creating a new deformity to remedy an existing one should be avoided. For example, in reconstructing a nose, it is easier to use a finger than the forehead skin and cartilage from a rib, but the result is not so pleasing and the hand is mutilated. It is also much easier to make a transverse excision of breast tissue and bring the remaining parts together in pendulous breast cases rather than the difficult operation of nipple transplantation and raising the entire gland to new position, but the result is quite at variance.

THERE has been a great deal of discussion lately over the question of the criminal changing his fingerprints in order to escape detection. This can be

done, but the time required is so great, the tissues involved are so specialized and difficult and the punishment for such an offense is so drastic, that it is unlikely than any plastic surgeon would willingly attempt the operations.

In some accident cases it is necessary to restore the fingerprint area, and this is done by selecting an area on the palmar surface of the hand where there are ridges and whorls similar to those which appear on the fingers. The result, when successful, gives a normal appearing area, but it is difficult to conceive of attempting ten such operations in order to change all the fingerprints. In Dillinger's case the ridges and whorls were burned with a powerful acid, but the prints, while changed, left scarred areas, and there were enough ridges and points left to make a positive identification by comparison with those on file at the Department of Justice.

IN the purely cosmetic type of plastic surgery, commonly known as "face-lifting" operations, there are certain limitations which face the operator. In order to obtain a pleasing result the normal expression must be retained, the baggy tissues must be raised to new position (not merely stretched) by under-cutting, and the wrinkled and sagging features ironed out to a more youthful contour without noticeable scarring. Properly done, the operation requires a great deal of skill, infinite patience and plenty of time. It is probably one of the most abused of all plastic procedures. In the hands of the charlatan it is the golden key to wealth, for almost any surgeon can excise some excess tissue behind the ears and obtain a temporary improvement in a baggy neck, but the elasticity of the skin soon allows the tissues to resume their original position, and disappointment follows.

There is probably no type of surgery, unless it be neurosurgery, which requires more strict attention to detail and plan than do plastic operative procedures if success is to follow. The value of these procedures can be estimated only in terms which the patient interprets. It is amazing to see the change in personality which occurs in some individuals when even a minor deformity is corrected.

CONSPICUOUS deformities often cause comment and ridicule which may result in hypersensitiveness, self-consciousness, psychic depression and even melancholia. Many individuals come under observation who have suffered mentally for many years, some of them just reaching maturity, whose parents have scorned the idea of plastic correction. Yet, these same parents would feel greatly chagrined if they realized how much mental anxiety and suffering they had caused by their indifference to a physical handicap. If the child suffered from some physical ailment which caused real pain and necessitated an operation for the relief of symptoms there would be no hesitation, but mental suffering is too often misunderstood and passed off with the remark that "The child will outgrow it."



There are thousands of individuals encountered in everyday life who are misfits because of physical handicaps at a time when the struggle for existence is increasingly more difficult. Many of them, though realizing the importance of social contact, voluntarily avoid the society of their fellow beings because of childhood ridicule, and develop introspective tendencies and a bitter outlook on life. Many of them are unable to bear the insufferable comments made regarding their appearance and drift into the underworld to become criminals, seeking what seems to them a just compensation for their disfigurements. It is to this large class of unhappy individuals that plastic surgery offers a value that cannot be estimated. It is to prevent the ever-increasing number of sufferers from prolonged psychic distress that correction of even the smaller deformities or blemishes is urged prior to the time when the child becomes self-conscious about them. Only recently a patient with an abnormal nose had such mental distress that she became a recluse, developed a melancholia and spent sixteen months in a sanatorium for mental diseases. The anticipation of operation has changed her entire outlook on life, and she is busily engaged once more in pleasurable work until she can enter the hospital.

A GIRL of eighteen who was born with a cleft palate and harelip attempted suicide even though a brave attempt at correction had been made in her infancy. The despondent look in her eyes, the drooping of her shoulders and the tightly drawn features told their tale of suffering when she appeared. When corrections were made she finished high school with honors, went to the university, and her entire life has been altered. She passes unnoticed on the streets where before she was looked upon with pity. She has taken speech lessons since her palate was lengthened, and aside from a few tell-tale words in the ears of an acute observer she converses without timidity or embarrassment.

Perhaps no greater satisfaction exists in this work than to see the metamorphosis of an individual born with a severe cleft palate and harelip who has had successful operative interference. To observe the changes wrought by palatoplasty and to watch these children grow up into adults with useful normal lives ahead instead of being hopeless outcasts from society is a reward into which monetary value does not enter.

Recently a young man who had been born with a cleft palate and harelip appeared for examination. His nose was badly deformed, there was a large notch in his lip, but his speech was very good. He refused to raise his eyes and sat with his head down as far as possible on his chest, answering questions in monosyllables. His mother stated that he had sat in his room reading for almost three months, refusing even to go down to the village store. This attitude had increased steadily since he was about ten years old, but had reached a climax in the last three months. He reluctantly consented to come for examination with the promise that there might be something done to improve his appearance. After operation, this boy was so changed in manner and appearance that everyone was delighted. The baffled, tortured expression was gone, he carried his head proudly and shook hands with a firm grip. His mother has written since their departure that he has friends in to dinner, that he goes to parties and dances, and now has work in the city.

MANY similar histories might be cited to prove the value of plastic operative procedures in conspicuous deformities. Yet, there is a group of borderline cases which must be dealt with, where health is not jeopardized by the condition. These individuals seek correction for such deformities as humpnose, pendulous breast, abnormally prominent ears, receding chin, moles or other small nevi of the face, lines and wrinkles about the eyes, jowls and neck. These people are just as sincere in their quest for improvement as are those who suffer from some more conspicuous deformity.

While it is generally agreed that blatant deformities come within the scope of dignified practice, suspicion is often cast upon motives in operation for cosmetic improvement only. Perhaps the economic value of personal appearance has not been properly considered by those who criticize or question the justification for these operations. The majority of all individuals seeking some form of cosmetic operation belong to the well educated class. Their goal is not merely a "sop to vanity" but protection against appearing at a disadvantage in competition with other people.

IN NASAL deformities, the extent of the distortion often bears no relationship to the degree of embarrassment suffered. Some of the minor types of humpnose cause great distress while more severe cases seemingly are better tolerated. Yet, the psychological changes following correction of nasal deformities are very marked in most cases. Subtotal or total loss of the nose compares favorably with similar losses of the ear due to the prominence of these features, but total reconstruction of the ear is a much more difficult procedure. While the value to the individual of such operative repair is unlimited, it is fortunate that in the majority of cases there is only a partial loss, and the difficulty of restoration is lessened in exact ratio to the amount of loss.

Abnormally prominent ears are a very distressing deformity, particularly to boys. Most of the girls who come for this correction either wear very short hair or have difficulty in getting hats to fit without accentuating the disfigurement. Correction of these deformities is

very gratifying to both patient and operator if properly done, and while purely cosmetic in type, is of great value from the standpoint of appearance.

The time to treat a receding chin is in early infancy. Early recognition of this condition and the institution of simple corrective procedures result in marked changes without operative interference. Stimulation of muscular development and bone growth by forced protrusion of the mandible during feedings by means of a special apparatus attached to a nursing bottle brings about unbelievable results in infants. If development is not satisfactory after the bottle feeding days are passed, the orthodontist can do much to increase the chin. In adults, an operation is necessary for correction. A shaped piece of bone or cartilage is employed to alter the mandible and produces a marked improvement in appearance. Strangely enough, many of these patients undergo a marked change in personality after correction, lose the shy, self-conscious manner and become the aggressive, athletic type.

The changes wrought by the proper correction of pendulous breasts are of great value. Such penalties as restricted dress, limited movement and unsightly appearance are not easily tolerated. Correction of this condition for cosmetic reasons only would justify the operation in many cases. Properly done the operation produces a virginal type of breast with small areola and a minimal amount of scar. This procedure requires several hours to complete, but the successful result brings about changes which more than compensate for its employment.

It is a mistake ever to place legitimate cosmetic plastic procedures in the class of vanity operations without taking into consideration the type of individual seeking correction. It is the duty of the surgeon to alleviate the mental suffering of legitimate claimants for his services. If the reputable practitioner turns a deaf ear to the pleas of cosmetic operations the patient is neither relieved of his affliction nor swerved from his purpose. Usually, the charlatanic "beauty-doctor" is given the opportunity to display his wares because he does recognize the

anxiety suffered and understands thoroughly the desire for improved appearance. The nation's bill for cosmetic preparations and beauty parlors each year is simply staggering. These things are used as a measure of prevention, and even the most radical dissenter pays his cosmetic bill with equanimity while extolling the virtues of "growing old gracefully." Yet, to those who are in daily

competition with others, in business or profession, personal appearance becomes the keynote to success and is often placed before ability. If, therefore, they seek a more direct method of obtaining protection against appearing at a disadvantage in such competition, every effort should be made by legitimate, trained surgeons to meet their demands.
384 POST STREET.



DISEASES OF THE SINUSES

—Concluded from page 157

labyrinth. The olfactory nerve, entering the nasal cavity through the cribriform plate of the ethmoid bone, is protected to this point by its sheath, but when the nerve filaments divide and ramify through the mucous membrane the sheath is left open; hence the ease with which, by the simple process of capillary attraction, infectious material may travel to the meninges.

The second anatomical factor lies in the fact of the thinness of the posterior plate of the frontal bone. This is not only thin but perforated by innumerable minute openings through which the lymphatics of the meninges ramify to be distributed to the mucous membrane lining

this cavity. A virulent involvement of this cavity with a fulminating type of infection, especially when there is pressure of a decided nature, can very easily travel either directly or by the lymphatic channels to the meninges.

The third factor lies in the position and intimate relationship of the sphenoid sinus to the cranial cavity. This normal intimacy is through the increased development of the sinus by the re-absorption of the bone which takes place throughout life, bringing the sinus into closer relation with many vital areas by dehiscence.

1737 CHESTNUT STREET.



CLINICAL ENDOCRINOLOGY

THE number of cases of endocrine disturbances met within everyday practice has attracted attention not only to the definite endocrinopathies but also to the obscure, vague and borderline cases having a possible endocrine basis. It is only too frequent that an individual comes under medical observation for a complaint that is vague, indefinite, and not associated with any definite organic syndrome, and after what is considered a thorough physical and laboratory investigation, nothing having been found, the patient is told that there is no organic condition present and suggestions of rest, vacations, tonics, and sexual adjustments are made. . . . I am sure that the great army of "many doctors' patients" variously labeled as psychoneurotics, neurasthenics and involutional melancholias would be fewer in number if the possibility of an endocrine disturbance was definitely ruled out.

H. M. Trifon, M.D., in *Tri-State Medical Journal*, August, 1938.

APPENDICITIS

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THIS discussion is based upon an analysis of the 5303 consecutive appendectomies performed at the Norwood Hospital from January, 1917, through December, 1938. An attempt will be made to utilize these cases in demonstrating the value of keeping the period between onset of symptoms and operation at a minimum as well as the importance of recognizing the sequence of symptoms as an aid to diagnosis. Those cases in which the appendix was removed during an operation primarily for some other pathological condition (1164) are omitted.

The records of the first 787 cases (1917-1922) unfortunately lack certain information and completeness pertinent to data taken for the purpose of further study and analysis and consequently mention of them is justifiably omitted from this discussion. This does not mean, however, that those cases were not reviewed in an effort to obtain whatever information of value they might have had.

Of the next consecutive 3352 cases from January, 1923, through December, 1938, 12.3 per cent were classified as chronic or recurrent appendicitis; 9.2 per cent as subacute; 50.0 per cent as acute; 20.1 per cent as gangrenous; and 8.4 per cent as ruptured, some having formed appendiceal abscesses (Table I). The diagnosis recorded is the postoperative one made by the surgeon. All cases in which the postoperative diagnosis was appendicitis were reviewed, including those in which the pre-operative diagnosis was different.

From the Norwood Hospital.

Read before the Jefferson County Medical Society, Birmingham, Alabama, April 26, 1938. Cases through December, 1938 have been added without changing the general content of the paper.

THERE was a total of 68 deaths in these cases, or a mortality of 2.03 per cent. Of the 671 gangrenous cases, there were 15 deaths, a mortality of 2.23 per cent. Forty-five of the 282 patients with ruptured or abscessed appendices died, a mortality of 15.9 per cent. There were five deaths in the acute cases; two in the subacute; one in the chronic. The analysis of deaths is shown in Table II.

Although anyone may be stricken with appendicitis, it is primarily a disease of youth. It is a curious fact that although appendicitis is such a common disease the etiologic factor still remains vague and indefinite, being anything which produces inflammatory conditions in the appendix. The appendix contains much lymphoid tissue and is very susceptible to bacterial invasion. The invasion takes place in the bottom of one or more of the follicles at the junction of the mucosa and submucosa and extends through the wall of the appendix. Foreign materials, especially fecaliths, are often factors which contribute to the introduction of bacteria into the walls of the appendix. Appendicitis is often subsequent to acute infections in other parts of the body, such as tonsillitis. The colon bacillus, streptococcus and pneumococcus are among the bacteria most frequently causing septic appendicitis. The rapidity with which the destruction of the appendiceal walls takes place is generally in proportion to the virulence of the infection.

Acute Appendicitis:

Symptomatology: Appendicitis is the most common acute pathological condition found in the abdomen, and careful analysis of its symptoms, particularly in the early stages, is of extreme importance. John B. Murphy, in 1909, stressed the value of the chronological order of symptoms in acute appendicitis. First,

MEDICAL TIMES, APRIL, 1939

TABLE I
Incidence and Mortality

Year	Totals	Deaths	Chronic and Recurrent	Deaths	Subacute	Deaths	Acute	Deaths	Gangrenous	Deaths	Ruptured or Abscessed	Deaths
1923	184	6	31 16.8%	0	17 9.2%	0	63 34.4%	0	59 32.0%	3	14 7.6%	3
1924	188	5	26 13.8%	0	13 6.9%	0	91 48.5%	0	43 22.8%	0	15 8.0%	5
1925	201	11	22 10.9%	1	16 8.1%	0	101 50.2%	1	39 19.4%	1	23 11.4%	8
1926	180	3	23 12.8%	0	11 6.2%	0	89 49.4%	0	49 27.2%	2	8 4.4%	1
1927	164	1	34 20.7%	0	15 9.2%	0	67 40.9%	0	36 21.9%	0	12 7.3%	1
1928	204	8	19 9.3%	0	17 8.3%	0	93 45.7%	0	57 27.9%	2	18 8.8%	6
1929	194	6	30 15.5%	0	14 7.2%	1	111 56.5%	2	29 15.2%	0	10 5.6%	3
1930	227	5	27 12.1%	0	22 9.5%	0	130 57.4%	0	33 14.4%	0	15 6.7%	5
1931	177	7	20 11.3%	0	23 13.3%	1	88 49.6%	0	36 20.2%	4	10 5.6%	2
1932	127	2	16 12.8%	0	13 10.3%	0	67 52.8%	0	21 16.2%	0	10 7.9%	2
1933	160	5	27 17.0%	0	17 10.6%	0	68 42.7%	1	25 15.4%	1	23 14.3%	3
1934	196	1	24 12.3%	0	22 11.2%	0	85 43.5%	0	46 23.2%	0	19 9.8%	1
1935	237	6	27 11.4%	0	16 6.9%	0	128 54.7%	1	33 13.5%	1	33 13.5%	4
1936	255	1	30 11.8%	0	26 10.2%	0	127 49.8%	0	55 21.5%	1	17 6.7%	0
1937	320	0	40 12.5%	0	35 10.9%	0	164 51.3%	0	48 15.0%	0	33 10.3%	0
1938	338	1	15 4.4%	0	32 9.4%	0	207 61.3%	0	62 18.4%	0	22 6.5%	1
	3352	68	411	1	309	2	1679	5	671	15	282	45

abdominal "cramp-like" pain around the umbilicus and above; second, nausea, or nausea and vomiting, coming on in from a few minutes to several hours; third, localized tenderness within twelve hours, accompanied by slight elevation of temperature and pulse. This cycle of symptoms takes place in from two to twelve hours in over 90 per cent of cases. Deaver emphasized this order and worked out the cause, showing why the symptoms occur in the way they do. Babcock, in 1935, and Kalteyer, in 1937, called attention to and further stressed the chronological order of symptoms as described by Murphy and Deaver.

Deaver, Hurst, Pollock and Davis, and McKenzie show that the first pain, which is cramp-like, is produced by the contraction of the appendiceal walls and is transmitted through the splanchnic nerves to the spinal cord and enters through the posterior roots of the 6th-

12th dorsal nerves, continuing along the sensory paths of the cord to the sensory center in the brain. Willis B. Gatch³, in his recent work, has shown that nausea is due to the rhythmic contraction of the stomach walls, and, when vomiting takes place, there must be in addition contraction of the abdominal muscle.

THE first pain is not so intense at its onset in most cases, but increases in intensity as the pathology develops. In a certain percentage of cases there will be a severe and sudden pain, sometimes referred to the right side in the region of McBurney's point (Table III). This is due to some foreign body in the appendix suddenly slipping into a narrower portion of the lumen, causing sudden and severe muscular contraction of the walls of the appendix.

In most cases this cramp-like pain is followed by nausea, or nausea and

TABLE II
Analysis of Deaths

	Totals	Autopsies *	Abscessed	Ruptured	Gangrenous	Acute	Subacute	Chronic
Pneumonia	2	..	..	..	1	..	1	..
Peritonitis and ileus	40	..	7	24	7	1	1	..
Peritonitis and splenitis	2	..	..	2	..	..	..	..
Peritonitis and liver and subdiaphragmatic infections..	12	2	5	3	3	1	..	..
Peritonitis, involvement of kidney, liver and spleen...	1	1	..	1	..	..	..	..
Peritonitis with sloughing of wall of bowel.....	2	1	2	..	..	..	..	..
Intermesenteric abscess, sudden death, undetermined..	1	..	..	..	1	..	..	..
Myocarditis	1	..	..	..	1	..	..	..
Hemorrhage from sloughing of abdominal wall.....	1	..	..	1	..	..	..	..
Hemorrhage from sloughing of meso-appendix.....	1	1	..	..	1	..	..	..
Acute dilatation of stomach.....	1	1	..	..	1	..	..	..
Mass in upper abdomen (no autopsy)	1	..	..	..	..	1	..	..
Sudden death at completion of operation—undetermined	1	..	..	..	..	1	..	..
Mechanical obstruction	1	..	..	..	..	1	..	..
Pulmonary embolism	1	..	..	..	..	..	..	1
TOTALS	68	8	14	31	15	5	2	1

* No autopsies were obtained prior to 1931.

vomiting (Table III). In our series the nausea has been less and vomiting absent when the stomach is empty, and nausea has been aggravated and vomiting produced when material is taken into the stomach.

The localization of pain, tenderness and muscle spasm is always over the area of involvement of the parietal peritoneum. This occurs in the region of

McBurney's point in 72 per cent of patients. In the remaining 28 per cent, the localization occurs anywhere from the cul-de-sac to the costal margin, mostly on the right side. It has been shown that in 2 per cent of human beings the cecum does not descend from its embryological position. This is responsible for the appendix being found high up in the right abdomen. In indi-

TABLE III
*Symptoms in Acute and Subacute Appendicitis**

Postoperative Diagnosis	First Symptom		Nausea, or Nausea and Vomiting	Tender- ness	Elevated Tem- perature and Pulse	Maximum Temperature
	Pain in Abdomen	Pain in Right Side of Abdomen				
SUBACUTE	79.6%	20.4%	93.6%	100%	84.4%	101.6°
(93)						
ACUTE						
One attack	86.6%	13.4%	98.1%	100%	95.8%	104.0°
(379)						
More than one attack..	71.4%	28.6%	95.3%	100%	88.5%	102.0°
(119)						
GANGRENOUS						
One attack	93.6%	6.7%	97.4%	100%	96.4%	103.0°
(132)						
More than one attack..	87.9%	12.1%	93.8%	100%	90.7%	101.0°
(33)						
RUPTURED	88.9%	11.1%	98.2%	100%	100.0%	103.0°
(54)						
ABSSESSED	77.8%	22.2%	87.5%	100%	100.0%	102.0°
(16)						
Total number of cases—828.						

* Based on the cases in 1936, 1937 and 1938. In the cases with more than one attack the most recent attack is described.

viduals with a transposition of the abdominal viscera, the localization is found on the left side of the abdomen. The nearer the inflamed appendix is to the parietal wall, the earlier the onset of tenderness will be, and the more pronounced. Appendices prevented from contact with the parietal peritoneum by being enveloped in omentum or by the folds of the intestines will not show early localization or pronounced tenderness.

The temperature and pulse elevation is always very slight, but we have found it in our series to be quite constant, if taken properly (*Table III*). Routine laboratory work was done on all the patients, the white blood count varying from 5,000 to 33,700.

THERE is one type of acute appendicitis that is rather rare and has a chain of symptoms that is very different from the type of symptoms enumerated above. In acute infection of a retroperitoneal appendix, the first symptom is

TABLE IV
Symptoms in Chronic Appendicitis

Symptoms	History of One Attack	History of More Than One Attack
Abdominal cramp followed by nausea and vomiting	13	18
Abdominal cramp without nausea and vomiting	5	3
Right-sided pain followed by nausea and vomiting	3	22
Right-sided pain without nausea and vomiting	6	15
TOTALS	27	58
GRAND TOTAL		85

general discomfort over the abdomen, with very little or no cramp, and sometimes nausea. A few hours after the onset the patient has a chill followed by a very high fever. A slight tenderness and much pain is noted in the lumbar region of the

TABLE V*
Time Intervals—Onset to Completion of Cycle of Symptoms in Acute Appendicitis

Postoperative Diagnosis	Number of Attacks	6 hours or less	6-8 hours	8-10 hours	10-12 hours	12-24 hours	24-36 hours	Over 36 hours	Totals
ACUTE									
Attack beginning with cramp in abdomen	one	115	71	45	40	34	13	10	328
	more than one.	30	16	12	10	8	4	5	85
Attack beginning with pain in right side of abdomen	one	19	11	4	4	6	2	5	51
	more than one.	12	10	4	4	3	..	1	34
									498
GANGRENOUS									
Attack beginning with cramp in abdomen	one	35	23	19	14	23	6	3	123
	more than one.	15	5	..	2	5	2	..	29
Attack beginning with pain in right side of abdomen	one	8	1	..	..	..	..	..	9
	more than one.	1	2	..	1	..	..	..	4
									165
RUPTURED									
Attack beginning with cramp in abdomen	one	13	10	2	3	7	6	..	41
	more than one.	5	1	1	..	..	..	..	7
Attack beginning with pain in right side of abdomen	one	4	1	1	..	..	..	..	6
	more than one.	..	..	..	..	..	..	..	0
									54
ABSCESED									
Attack beginning with cramp in abdomen	one	3	2	1	2	1	3	1	13
	more than one.	..	..	..	..	..	..	1	1
Attack beginning with pain in right side of abdomen	one	1	1	..	..	..	..	..	2
	more than one.	2	..	..	..	..	..	..	2
									18
									TOTAL.....
									735

* Based on the cases in 1936, 1937 and 1938.

TABLE VI
Time Intervals—Onset of First Symptom to Admission

		6 hours or less	6-8 hours.	8-10 hours	10-12 hours	12-14 hours	14-16 hours	16-18 hours	18-20 hours	20-22 hours	22-24 hours	24-28 hours	28-32 hours
ACUTE													
Attack beginning with cramp in abdomen	one	23	21	22	27	22	18	23	18	14	24	27	9
Attack beginning with pain in right side of abdomen	more than one	4	6	5	10	9	8	4	4	1	6	4	1
Attack beginning with pain in right side of abdomen	one	1	4	1	6	3	4	1	2	..	4	1	1
	more than one	5	3	2	2	4	..	..	..	..	3	1	..
GANGRENOUS													
Attack beginning with cramp in abdomen	one	1	1	4	6	12	6	3	8	4	19	9	8
Attack beginning with pain in right side of abdomen	more than one	2	1	1	1	4	2	..	..	..	5	5	..
Attack beginning with pain in right side of abdomen	one .....	..	..	2	1	1	..	1	..	..	1	1	..
	more than one	..	..	..	..	..	..	..	..	..	1	1	..
RUPTURED													
Attack beginning with cramp in abdomen	one .....	..	..	..	..	..	2	..	..	..	3	2	2
Attack beginning with pain in right side of abdomen	more than one	..	..	..	1	..	..	..	..	..	1	..	..
Attack beginning with pain in right side of abdomen	one .....	..	..	..	..	..	..	..	..	..	1	1	..
	more than one	..	..	..	..	..	..	..	..	..	..	..	..
ABSCESED													
Attack beginning with cramp in abdomen	one .....	..	..	..	..	..	..	..	..	..	..	..	..
Attack beginning with pain in right side of abdomen	more than one	..	..	..	..	..	..	..	..	..	..	..	..
	one .....	..	..	..	..	..	..	..	..	..	..	..	..
	more than one	..	..	..	..	..	..	..	..	..	..	..	..
												TOTAL	...

* Based on the cases in 1936, 1937 and 1938.

back. The patient appears to be extremely sick, having a rapid pulse. The temperature varies from 103° to 107° and the patient has all the symptoms of cellulitis with recurring chills and high fever, followed by sweating. I have personally operated on three such cases. My associate, Dr. D. F. Talley, operated on one such patient who had a temperature of 107° while on the operating table. All four cases recovered. Crisler⁴, in 1921, Jackson⁵, in 1927, and Muller⁶, in 1934, called attention to this type of appendicitis caused by faults in rotation and descent of the appendix, the organ being caught behind the folds of the peritoneum.

Differential Diagnosis: Pain is the most common symptom of all acute abdominal conditions and, in the majority of instances, is the first expression of pathology. It must be carefully interpreted as to its onset, character, severity, and the time of maximum severity. Abdominal pain that increases in severity and is followed by abdominal tenderness is due to a progressive inflammatory condition. The severity increases as the pathology develops and varies according to the different pathological conditions, and, when more than one organ is involved, may produce more than one type of pain. Acute diverticulitis can give all the symptoms and in the same chronological order as acute appendicitis. However, the localized tenderness is found more frequently on the left side than on the right.

When abdominal pain is sudden and severe at the

Postoperative Diagnosis	
ACUTE	
Attack beginning with cramp in abdomen	one more
Attack beginning with pain in right side of abdomen	one more
GANGRENOUS	
Attack beginning with cramp in abdomen	one more
Attack beginning with pain in right side of abdomen	one more
RUPTURED	
Attack beginning with cramp in abdomen	one more
Attack beginning with pain in right side of abdomen	one more
ABSCESED	
Attack beginning with pain in abdomen	one more
Attack beginning with pain in right side of abdomen	one more

* Based on the cases in 1936, 1937, and 1938.

	24-28 hours	28-32 hours	32-36 hours	36-48 hours	3 days or less	Within 4 days	Within 6 days	6 days or more	Totals
cramp	9	..	13	23	16	9	10	9	328
one	3	3	6	3	1	7	85
more than one	3	4	5	2	1	3	51
cramp	3	3	4	1	..	3	34
one
more than one
cramp	8	..	13	17	8	2	1	1	123
one	1	3	1	1	2	..	29
more than one	1	1	..	..	..	..	9
cramp	1	1	..	..	4
one
more than one
cramp	2	..	4	12	8	6	1	1	41
one	2	1	2	..	..	..	7
more than one	2	1	..	1	1	..	6
cramp	0	54
one
more than one
cramp	1	..	3	1	3	5	13
one	1	..	..	..	1	1
more than one	1	1	..	2	2
cramp	2	18
one
more than one
TOTAL	735

beginning, and continues, sometimes has either ruptured or slipped. Such is the case in renal or biliary colic, intestinal strangulation, and perforation of some abdominal organ. In biliary or renal colic, the pain comes on suddenly and continues. In acute pancreatitis, the pain begins in the same way in most instances. However, the patient is more critically ill with a faster pulse and in greater shock. In intestinal obstruction, there is a sudden severe pain that is colic-like in character and continues as a severe intermittent pain, being followed by nausea and vomiting. The pain in a perforated gastric ulcer is sudden and severe at its onset and continues with localized tenderness and muscle rigidity. The pain is so intense that the patient has to be carried from the place where he is stricken. Here we will quote Lord Moynihan of England, who said that it is better to know what to do than what is the matter if you cannot know both.

There are numerous conditions which cause reflex pains in the abdomen such as pneumonia, pleurisy, Pott's disease and tabetic crisis. There are also referred pains due to ptosis of the abdominal viscera when they become distended and distorted and pull on the parietal peritoneum,

TABLE VII
Time Intervals—Admission to Operation*

	Number of Attacks	One hour or less	1-2 hours	2-4 hours	4-6 hours	6-12 hours	12-24 hours	24-36 hours	36-48 hours	Totals—
cramp	one	51	147	86	14	13	16	..	1	328
one	more than one.....	16	28	22	4	4	10	..	1	85
cramp	one	14	15	10	1	4	6	..	1	51
one	more than one.....	4	12	9	4	2	2	..	1	34
cramp	one	29	52	29	6	4	3	..	..	123
one	more than one.....	4	13	8	1	2	1	..	..	29
cramp	one .....	..	1	3	3	1	1	..	..	9
one	more than one.....	1	1	..	1	..	1	..	..	4
cramp	one	7	21	8	1	2	2	..	..	41
one	more than one.....	1	5	..	..	1	..	..	..	7
cramp	one	2	3	1	..	..	..	..	..	6
one	more than one.....	..	..	..	..	..	..	..	..	0
cramp	one	4	6	2	..	1	..	..	..	13
one	more than one.....	..	1	..	..	..	..	..	..	1
cramp	one .....	..	1	1	..	..	..	..	..	2
one	more than one.....	..	..	..	..	1	1	..	..	2
TOTAL	.....	..	..	..	..	..	..	..	..	735

stimulating the somatic sensory nerves of the abdominal wall at the root of the mesentery. However, if careful histories are taken and complete physical examinations made, they can be eliminated.

Chronic Appendicitis:

THE chief symptom in chronic appendicitis is a more or less constant right-sided abdominal pain lasting over a long period of time (Table IV). With this may be associated all types of digestive disturbances. Some patients have symptoms of duodenal ulcer, due to gastric hyperacidity and pylorospasm. The most important consideration in chronic appendicitis is the diagnosis.

In all patients operated on for chronic appendicitis, a differential diagnosis must be made to exclude other pathological conditions that produce similar symptoms. A neurological examination is made to eliminate pathology of the spinal nerves. A careful and thorough urological examination will eliminate or confirm any pathology in the urinary tract. The colon should be fluoroscoped to determine contour, position, abnormal mobility or any pathology which could be responsible for right-sided abdominal pain. In the female, careful examination of the pelvic organs should be made for any pathology. Painful ovulation may be incorrectly diagnosed as chronic appendicitis. Occasionally recurring hernias, especially in the female, will cause pains simulating attacks of appendicitis. If the patient is examined in an up-right position while straining, this can be differentiated. Neuritis and other pathological conditions of the spinal nerves can produce right-sided pain.

When there is a definite history of recurring attacks of appendicitis, the diagnosis is quite easy. Although there are other pathological condi-

tions which one would be justified in diagnosing as chronic appendicitis, such as cyst of the cecum, mucocele of the appendix, adhesions, etc., we agree with Boyd, who, in discussing the pathology of chronic appendicitis, said, "Once appendicitis, always appendicitis."

I recently operated on a patient, for uterine tumor, who gave the following history. At the age of about 20 years, she had an acute abdominal cramping referred to the umbilicus, followed by nausea and vomiting and localized tenderness in the mid-line just above the pubis, with elevation of temperature and pulse. At that time, her physician diagnosed the case as abscess of the tube. She was confined to bed for several weeks and one day suddenly had a profuse discharge of pus from the vagina. From then on she improved and had a complete recovery. A few years later she married and became the mother of several children. At the time of the operation an investigation showed that the cecum was over the brim of the pelvis, permanently adhered, and there was no evidence of an appendix.

TABLE VIII

Postoperative Diagnosis	Number of Attacks	6 hours or less	6-8 hours	8-10 hours	10-12 hours	12-14 hours	16-18 hours
ACUTE							
Attack beginning with cramp in abdomen	one	7	18	17	20	26	19
Attack beginning with pain in right side of abdomen	more than one ..	5	6	5	9	4	6
	one	2	2	5	3	..	..
	more than one	1	3	4	..	8	..
GANGRENOUS							
Attack beginning with cramp in abdomen	one .....	..	1	2	6	5	9
Attack beginning with pain in right side of abdomen	more than one ..	..	1	..	3	2	4
	one .....	..	..	..	..	1	..
	more than one	..	..	..	..	..	..
RUPTURED							
Attack beginning with cramp in abdomen	one .....	..	..	..	..	..	1
Attack beginning with pain in right side of abdomen	more than one ..	..	..	..	..	..	..
	one .....	..	..	..	..	..	..
	more than one	..	..	..	..	..	..
ABSCESSED							
Attack beginning with cramp in abdomen	one .....	..	..	..	..	..	..
Attack beginning with pain in right side of abdomen	more than one ..	..	..	..	..	..	..
	one .....	..	..	..	..	..	..
	more than one	..	..	..	..	..	..

* Based on the cases in 1936, 1937 and 1938.

The Time to Operate:

IT is generally recognized by both internists and surgeons that the time to operate is before gangrene develops. We have endeavored in so far as possible to get our patients for appendectomy before this stage (*Tables VI and VII*). However, we have operated on practically every case of appendicitis as soon as it was diagnosed as such, regardless of the interval of time between the onset of the attack and admission to the hospital (*Tables VII and VIII*). Numbers of these patients appeared to have general peritonitis and looked hopeless for any type of treatment. In 1930, to patients who were seriously ill on admission, we began giving 2 per cent acriflavine intravenously. Our mortality in this type of patient decreased and for six years we were under the impression that we were reducing our death rate by the administration of acriflavine. However, in January 1936, we discontinued the use of this drug and our mortality continued to be lower.

Some of the leading surgeons are now advocating a more conservative attitude in regard to the time to operate, waiting, where symptoms indicate peritonitis, for localization. They consider these cases inoperable on admission.

Anesthesia:

WE have used all types of anesthetics and have found intravenous pentothal sodium, with continuous nasal oxygen, to be most satisfactory.

The Location of the Incision and Technic of Operation:

OUR method has been to determine the point of greatest tenderness by gentle palpation while the patient's attention is distracted from himself. A small incision is made in the abdominal wall at the point of greatest tenderness. This incision is protected by clamping a towel on either side. The finger is inserted and, if the appendix can be located and is found to be mobile and can be delivered through the incision, it is then

clamped at its base with three artery clamps. The wall of the incision is protected on either side by gauze pads, covered with a piece of rubber dam and then covered with a towel. The meso-appendix is tied off and incised. A purse-string suture is inserted, making a loop around where the meso-appendix was attached including the appendiceal artery and bringing together the serous coats. The appendix is amputated between the two distal artery clamps and treated with phenol and alcohol and the stump is inverted. The purse-string suture is tightened and tied. The stump of the meso-appendix is brought up over the point of inversion of the stump of the appendix and sutured in a manner to cover up all raw surface, and the

Time Intervals—Onset of First Symptom to Operation*

	10-12 hours	12-14 hours	16-18 hours	18-20 hours	20-22 hours	22-24 hours	24-28 hours	28-32 hours	32-36 hours	36-48 hours	3 days or less	Within 4 days	Within 6 days	6 days or more	Totals
0	26	19	20	17	29	31	12	11	28	18	11	11	11	328	
5	9	4	4	5	7	7	3	3	5	4	5	5	7	85	
8	3	6	1	3	3	1	3	3	3	7	3	2	4	51	
1	3	2	..	..	2	2	2	..	4	34	
6	5	9	7	6	15	11	7	20	13	4	1	7	1	123	
..	1	2	..	1	3	4	3	1	4	1	1	1	2	29	
..	1	1	1	1	2	1	2	..	9	
..	4	
..	165	
..	..	1	3	4	1	11	8	11	1	1	41	
..	1	1	1	2	1	1	7	
..	3	2	..	6	
..	0	
..	54	
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cecum is dropped back into the cavity. The towels, gauze pads and rubber used for the protection of the edges of the incision are discarded, and the surgeon and his assistant wash their gloved hands by pouring a solution of bichloride of mercury over them.

WHEN the appendix is adhered the incision is enlarged to make ample room for work. The finger is then inserted and held against the appendix. A small pack is applied on either side of the appendix, using the finger as a guide so as not to disturb it. A retractor is placed against the gauze pack on either side and held so as to expose the appendix. It is then freed from its mooring. If there is any pus liberated, it is carefully cleansed away. The appendix is delivered into or through the incision and the site where the appendix was adhered is treated with a 10 per cent solution of mercurochrome. If the appendix cannot be delivered it is ligated at its base and amputated. In cases where there is frank abscess and the appendix cannot be removed safely the abscess is drained and a drain inserted down to the abscessed cavity.

In the seriously ill patients presenting symptoms of general peritonitis or walled-off abscesses, a properly selected anesthesia should be given, having the patient sufficiently anesthetized so there will be no strain. A small incision is made at the point of greatest tenderness. The index finger is inserted through the incision into the cavity and the appendix is located. If the appendix is free and can be brought up through the incision without disturbing any of the surrounding organs or doing any packing it can be removed. If it is adhered or in such position or condition that the surgeon considers it unsafe to attempt to remove the appendix, a drain should be inserted down to the point of greatest pathology and the wall closed with as few sutures as possible, remembering pus plus pressure means increased toxemia, extension of pathology and destruction.

IN a definite, walled-off abscess the abscess can be surrounded with a pack and pus evacuated and a drain inserted. Where the abscess reaches the anterior abdominal wall an incision is made so

that the abscess can be opened without getting into the abdominal cavity and a drain inserted.

We drain only cases of ruptured appendix or gangrenous appendix where the appendix has been adhered to the parietal peritoneum or some other abdominal organ and there is evidence of bacterial invasion. The end of the cecum is so placed that the stump of the appendix will be against the posterior wall. We have found that in so doing, if the stump of the appendix sloughed, and a fecal fistula formed, the fistula will close spontaneously. We use only one drain and that is placed in the bed from which the appendix was removed. Cigarette drains are the only type employed.

We try to be very careful in operating and not get away from the point where the appendix is located or allow the loops of the intestines to come in contact with the field of operation and in this way prevent spreading of infection.

In retroperitoneal appendicitis, the incision should be made on the right side about midway between the costal margin and Poupart's ligament. It should be long enough to give ample room for operation. The intestines and the ascending colon are packed off toward the midline. The base of the appendix is located and the posterior parietal peritoneum is opened so as to dissect out the appendix. If the appendix is not gangrenous or ruptured, the posterior parietal peritoneum can be closed. If the appendix is ruptured, the posterior peritoneum is left open and a drain inserted. This drain can be carried out through a stab wound in the lateral wall of the abdomen.

In non-drainage cases the abdominal wall is closed by anatomical layers. In drainage cases it is closed with as few sutures as is possible, being careful not to tie the sutures too tight, for as A. J. Ochsner once said, "Sutures are used to approximate and not to strangulate."

Postoperative Treatment:

POSTOPERATIVE treatment depends upon the pathology found at the operation and the condition of the pa-

tient. Sir William Osler said, "A wise physician treats the patient, and a fool treats the disease." In the non-drainage cases the routine is to withhold food until the end of twenty-four hours. Then liquids are permitted if there is no nausea or vomiting. In the ruptured and drainage cases and where there is vomiting and distention, they are given glucose (5 per cent) intravenously and negative pressure is started. Continuous proctoclysis is begun, with drainage of the tube every four hours. A dose of pituitrin is given to the patient at the time the tube is being drained. This has given excellent results in our hands in controlling vomiting, the over-distention and ileus. Opiates in some form are given to insure the comfort and rest of the patient. By caring for the patient this way, we feel that we have saved numbers of so-called inoperable cases of appendicitis with peritonitis.

Summary and Conclusion:

AT the beginning of the year 1923, with the cooperation of the surgical staff and other members of the Norwood Clinic, we began to make a careful study of patients with appendicitis in order to try to lower the mortality rate. Particular attention was paid to the history, physical findings, operative technic and postoperative care. There were 3,352 consecutive cases reviewed. The mortality rate in the series is 2.03 per cent. There has been only one death during the last 32 months (845 cases). The incidence of cases in this period is: chronic 77, (9.1 per cent); subacute, 82, (9.7 per cent); acute, 473, (56.0 per cent); gangrenous, 145, (17.2 per cent); ruptured, 51, (6.0 per cent); abscessed, 17, (2.0 per cent). The one death was that of a colored male, IA, aged 38, who had a retrocecal, gangrenous and ruptured appendix. Death, which was caused from spreading peritonitis, occurred on the fifth postoperative day.

There was one death from appendicitis which is not recorded in this series because all cases chosen were based on the postoperative diagnoses. This patient was not operated upon and received only medical treatment. He comes under the class of the post-peritoneal appendices, which was discussed in this paper. The

patient gave a history of having had an acute abdominal condition about five years previous to admission. The attack began with a chill and the patient had an acutely distended abdomen, and, as he stated it, "kidney trouble." He recovered from this attack. The second attack began five days before admission. The patient had a chill and pain in the left chest and arm. He was given nitroglycerin by his family physician. He also complained of pain in his right leg extending down to his big toe. He developed abdominal distention and tenderness. The patient was admitted to the hospital on September 5, 1938, in a semi-conscious condition. His temperature was 99 4/5°; pulse, 104; blood pressure, 104/80; hemoglobin, 100 per cent; rbc, 5,200,000; wbc, 12,300; lymphocytes, 4; neutrophils, 96. His condition progressively got worse and he died six days after admission, no definite diagnosis having been made. Autopsy revealed a ruptured postperitoneal appendix with spreading infection in the postperitoneal tissues.

WE believe it is possible to make a diagnosis from a carefully taken history and physical examination in over ninety per cent of cases of acute appendicitis, provided the patient is seen within the first twelve to eighteen hours after the onset of symptoms, and that the patient should have an operation within the first eighteen hours if possible.

The virulent type of appendicitis which becomes gangrenous will rupture in most instances in eighteen to thirty-six hours after the onset of pain.

Most of the patients who delayed in entering the hospital for various reasons were operated upon as soon after admission as the diagnosis was made and the consent of the patients' relatives given. Where definite abscess was diagnosed on a patient coming in during the night the operation was postponed until the following day. This procedure has given us a lower mortality rate than the conservative plan of further waiting.

IN conclusion it is our opinion that the lowered mortality rate in the series is due to:

- (1) making the proper diagnosis and

locating the focus of pathology,

(2) making the incision over the point of pathology,

(3) not spreading the infection by examination or operative procedure,

(4) using intravenous pentothal-oxygen anesthesia, which gives perfect relaxation,

(5) not inserting drains away from the point of pathology,

(6) thoroughly covering all raw surface with rubber dam and preventing mechanical obstruction,

(7) instituting proper postoperative treatment early to prevent paralytic ileus and absorption of regurgitant toxic duodenal material into the stomach,

(8) having an experienced surgeon administer or supervise all treatment, individualizing each patient and treating accordingly, not overtaxing the capacities of the patient.

Since the presentation of this paper before the Jefferson County Medical Society an article has been published in the June, 1938, issue of *Surgery, Gynecology, and Obstetrics* by Doctors Bower,

Burns and Mengle.⁷ They emphasize the importance of not spreading the infection from its focus by carefully diagnosing the site of infection and making the incision at that point where the pathology can be treated with minimum risk of spreading infection.

There are differences of opinion and procedure in this field. Clarence E. Gardner⁸ in his article "Delayed versus Immediate Operation for Perforated Appendix," concludes that there is "a reduction in mortality, incidence of complications and duration of hospitalization in patients treated by delayed operation." Maes and McFetridge⁹ say that purgation and procrastination are the chief causes of high mortality in acute appendicitis. They advocate prompt surgery in the extremes of life as well as in the group that appendicitis attacks most frequently. As we said at the beginning of this article, our own endeavor has been to keep the period between the onset of symptoms and operation at a minimum, with good results in the series presented.

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SYMPTOMS OF HEPATIC INSUFFICIENCY

THE significance of the early symptoms of hepatic insufficiency is too little recognized by the medical profession, though it is well understood by many of the laity, who rightly ascribe them to biliousness or liverishness. The patient is irritable and depressed and complains of a feeling of general unfitness and headache, which are most marked in the morning and may pass off with exercise later in the day. Nausea and anorexia, especially in the morning, and drowsiness after meals are common symptoms.

Arthur Hurah, M.D., In *Practitioner*, June, 1938

CANCER

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THE term biopsy is relatively new. It does not appear in Foster's Illustrated Encyclopedic Medical Dictionary (Appleton, 1888). It is not found in the 1895 edition of the Standard Dictionary.

In the first edition of Gould's Dictionary of Medicine, Biology, and Allied Sciences (Blakiston, 1894) the word appears and is defined as "Observation of the living subject; opposed to necropsy." In the second revised edition of Gould's Medical Dictionary (1928) we find the following: "Biopsia, biopsy. 1. Observation of the living subject; opposed to necropsy. 2. A name coined by Besnier for the excision, during life, of an eruptive lesion or fragment of a new growth to establish the diagnosis by means of an examination of the excised piece."

The word biopsy is to be found in the American Medical Dictionary (Dorland, Saunders, 1924); in the eighth edition of the American Pocket Medical Dictionary (Saunders, 1913); and in the first edition of Stedman's Medical Dictionary (William Wood, 1911). The phraseology of the definitions varies somewhat; but all indicate that the word denotes the histological examination of material removed from the living subject.

ERNEST HENRI BESNIER was born in 1831 and died in 1909, aged 78 years. He was an internist and physician to L'Hôpital Saint Louis. He became a dermatologist in 1872. "He did much

to popularize the study of skin lesions by means of the histologic examination of tissue removed during life, a proceeding for which he is credited with the creation of the term biopsy, now in general use." (Beeson¹). Besnier² says: "We have been able to study changes in the skin in a definite manner, not only by necropsy material, but also we have been able to clear up (*éclaircir*) a great many points by histologic examinations of strips (*lambeaux*) of skin or fragments of diseased tissue obtained during life. This method of investigation, true biopsy (*biopsie*), a new word which we propose for the designation of a new thing, is a regular procedure of clinical diagnosis of considerable importance."

In 1901 Darier³ published a paper entitled "Biopsy—The Histological Diagnosis of Dermatoses and Tumors of the Skin of Doubtful Character" in which he says that biopsy is a "sort of autopsy on the living," valuable in the differential diagnosis of epithelioma, lupus vulgaris, lupus erythematosus, tuberculous ulcers, gummatous syphilides, chancre, dental ulceration, leprosy, actinomycosis, farcy, sarcoma, and many others.

Surgical Biopsy:

DARIER³ thus described the method to be employed in performing the operation: "Thrust a von Graefe knife beneath a fold of skin, held between the

Biopsy

thumb and the forefinger of the left hand. Cut a flap including the tissue desired for examination. Grasp the flap with forceps, cut it at the base with scissors and drop it at once into fixing fluid."

He advised against the use of subcutaneous injections of a local anesthetic; but suggested a local application of 10.0 per cent solution of cocaine to the surface of ulcerating lesions.

Schiller⁵⁵ in biopsy of lesions of the cervix of the uterus, recommends a small spoon curette for the removal of the suspicious area.

Hueper⁵⁷ points out that biopsy material must be taken from the peripheral zone of the growth, must be properly prepared and stained and studied by a trained pathologist.

When the surgeon does a biopsy for the diagnosis of a breast lesion, he should have a frozen section report and be prepared to do an immediate radical mastectomy if the report of the pathologist indicates that the growth is a carcinoma.

In case the histological study of the biopsy material shows that the lesion is tuberculous, cancer may also be present, as pointed out by Cooper⁵³ who reports twenty-four cases in which both diseases were coexistent and who adds that tuberculosis and cancer are not antagonistic. (See *Medical Times and Long Island Medical Journal*, April, 1935. 63:121).

Aspiration Biopsy:

MARTIN and Ellis^{45a} began to employ aspiration biopsy in 1926. They used an 18-gauge needle attached to a Record syringe. They recommended its use for the diagnosis of tumor masses which lie below the surface of normal tissue whenever surgical exposure is contraindicated for any reason. They were of the opinion that aspiration biopsy has "few if any" of the disadvantages suggested by the critics of the method.

The needle is thrust into the mass to be studied through a skin incision made after local anesthesia with 1.0 percent novocaine, and through an area previously painted with tincture of iodine. The needle may be advanced and withdrawn when it has reached the tumor; but care must be taken to maintain the suction on the syringe during these movements

because suction when the needle is not at rest is the most common cause of failure to secure tissue. However, the suction must be slowly released and the needle detached and withdrawn separately. The contents of the needle are expressed onto a clean glass slide by partially filling the syringe with air, attaching it to the needle and slowly pushing home the piston. The material thus obtained may then be smeared on the slide and stained, or embedded in paraffin, sectioned and stained.

They report over 1,400 positive histological diagnoses of cancer by this method, which is at present constantly employed at Memorial Hospital (New York City) for diagnostic purposes.^{45b} It is in routine use by Ball,² who substitutes a Luer syringe for a Record syringe.

New types of needles for aspiration biopsy have been described by Correiro (1937)¹¹ and Silverman (1938).⁵⁰

Punch Biopsy:

IN 1931 Hoffman^{56a} described a method for obtaining biopsy specimens with an improved punch. The instrument was so constructed that a high frequency current could be applied along the track of the instrument of coagulate and devitalize and adherent tumor cells in order to prevent implantation in the needle track. In 1933^{56b} an improved Hoffman punch was described. The author's technique was described as follows: The skin and tissues overlying the suspected tumor are infiltrated with novocaine and some of the anesthetic is injected deeply along the proposed path of the instrument, avoiding puncture of the tumor. The instrument is inserted through a stab wound in the skin. The tissue thus obtained is examined by smear, by frozen section, or after embedding in paraffin.

The method is of value in the diagnosis of obscure tumors entirely lacking pathognomonic features, for obtaining a definite histological picture of the growths, and for determining the results of irradiation. The method was applied to breast tumors, prostatic lesions, bone tumors, and lymph adenopathies.

In a series of 100 biopsies done with this instrument there was no instance of fungation, infection or hemorrhage. The danger of local or general dissemination

appeared to the author to be slight and trauma appeared to be negligible. In order to avoid these theoretical objections, however, the track of the punch may be coagulated with the diathermic attachment.

Every sore or lump, recently acquired, which does not disappear, or become smaller, or show signs of disappearance after two or three weeks of local, non-corrosive treatment, should be subjected to biopsy. It should be done only by a surgeon who is capable of performing a radical operation, if cancer is shown to be present. The material obtained at biopsy is best studied in a fresh, unfixed condition. (MacCarty¹²).

Diagnostic Curettage:

THERE is no necessity for enlargement upon the diagnostic curettage, which is a form of biopsy and has been used for many years.

Tamis¹³ has described an instrument for obtaining biopsy material from the endometrium.

Disadvantages:

IT has been claimed by some observers that the performance of a biopsy may be followed by infection, by hemorrhage, by acceleration of the growth of the tumor, and increased incidence of metastases.

When biopsy material is obtained by excision with the scalpel, cautery, or the endotherm knife, a relatively large breach is made in the capsule of the tumor, and opens a passage along which the tumor cells may spread.

Martin and Ellis¹⁴ enumerate the disadvantages of biopsy as follows: (1) The danger of local or general dissemination of the disease from the fungation of tumor tissue through the operative wound; (2) interference with subsequent surgical therapeutic procedures; (3) surgical risk, including hemorrhage and infection.

Biopsy, regardless of the method, is fraught with the danger of spreading malignancy. (Correio¹⁵).

Bloodgood¹⁶ pointed out that the chief danger of biopsy was that of making a diagnosis of cancer when the tumor is benign.

Hanser¹⁷ denies that metastases are increased by biopsy, and is also the author of the statement that biopsy will not produce cancer.

Epstein and Fedorejeff¹⁸ after a review of the material at the Oncologic Institute at Leningrad and of the literature, are of the opinion that complications following carefully performed biopsies are exceptional. However, they believe that increased rapidity of growth is seen more frequently in cases of sarcoma than in cases of carcinoma.

McGraw and Hartman¹⁹ say that biopsy is not a dangerous procedure, provided it is properly done.

Advantages:

BIOPSY is necessary for the purpose of grading tumors as to their malignancy, in order to determine the possible value of irradiation and in some measure for prognosis (Mathews²⁰).

Biopsy material is of value in the determination of the degree of malignancy of a tumor by Broders' method (Brindley¹⁰).

The literature contains many individual case reports in which diagnosis was made from the examination of biopsy specimens.

Broders¹¹ in a paper entitled *Carcinoma in Situ Contrasted with Benign Penetrating Epithelium*, points out that if in a specimen obtained for biopsy carcinoma *in situ* is associated with infiltrating carcinoma, there is little chance of missing the diagnosis. However, if carcinoma *in situ* appears alone, its recognition is necessary, because failure to recognize it may be fraught with grave danger to the patient. The diagnosis is based on the character of the epithelial cells, which contain nuclei that have an increased avidity for the basophilic dyes, are usually increased in size, are frequently irregular and in a state of atypical mitosis, and are occasionally found in groups in the form of tumor giant cells. The day has passed when epithelium can be considered noncarcinomatous or at most only precancerous because it is within the confines of the basement membrane, and carcinomatous because it has penetrated beyond this barrier.

PEMBERTON and Smith⁵² consider biopsy a life-saving measure.

Novak⁵⁰ says that in cervical lesions biopsy is essential for diagnosis. There is no evidence to show that it is a factor of importance in disseminating cancer cells. Bartlett and Smith⁷ recommend biopsy for the diagnosis of cervical cancer. Döderlein⁵³ says that biopsy is not dangerous if done with the diathermic loop. Te Linde⁵⁴ discusses the cases in which a competent pathologist is unable to make a positive diagnosis on biopsy material.

Hinselmann⁵⁵ and Frank⁵⁶ recommend the diathermal cautery. Wallingford⁵⁷ is of the opinion that all curettings should be examined microscopically even though they appear nonmalignant. Jorstad and Auer⁵⁸ believe that grading alone is of no prognostic value. It may, however, be the deciding factor between surgery and irradiation. Healy and Kelly⁵⁹ report 227 cases of primary cancer of the cervix all proved by biopsy. Weaver⁶⁰ says that biopsy should always precede treatment of cancer of the cervix for the purpose of estimating the radiosensitivity of the growth. Emmert and Taussig⁶¹ report four cases of carcinoma of the cervix in patients with complete prolapse of the uterus. If biopsy were to be done in all cases of ulceration of the cervix in prolapsus uteri many more cases of cancer would be discovered. Healy⁵⁹ resorts to biopsy routinely in cervical lesions for the purpose of diagnosis and histologic grading.

EWING⁶², in 1915, discussed the question of biopsy under the title "The Incision of Tumors for Diagnosis." He arrived at the following conclusion: 1. The careful excision of a small piece of a malignant tumor by a sharp scalpel need not, as a rule, tend to disseminate or aggravate the disease. 2. Incision through the unbroken skin is seldom admissible for the sake of diagnosis. The skin is the chief protective against infection, which when once established in a tumor, greatly aggravates the disease. 3. The clinical history is an essential basis for the correct interpretation of microscopical structure. Failure to submit clinical data to the pathologist is

responsible for much of the confusion which arises between surgeons and pathologists. 4. The prognosis of a tumor may to a considerable extent be based on the microscopical structure. 5. The use of frozen sections, while occasionally of decisive value, encourages hasty conclusions and readily leads to error. 6. No rigid rules can be safely followed in deciding to remove a portion of a tumor for diagnosis. He then considers the precautionary measures to be observed in doing biopsies of suspicious lesions in various regions and organs. It appears to the editors that these conclusions are as applicable today as they were in 1915.

Biopsy in Breast Tumors

BLOODGOOD^{7b} elaborated on an earlier paper in which he pointed out that the chief danger of biopsy was that of mistaking a benign lesion for cancer^{7c}. Such an error might lead to the unnecessary amputation of a breast. He says that when the surgeon has the benefit of a well trained pathologist in the operating room, biopsy is the least dangerous method of determining the benign or cancerous character of a breast tumor. He recommends that in lesions which are benign or borderline in appearance, the patient should be given a deep x-irradiation application immediately after the closure of the wound and that the biopsy material should be put through the paraffin process and be submitted to two or more experienced pathologists for opinion.

Greenough^{7d} said that the presence of any breast tumor must suggest the possibility of cancer and that the nature of such a tumor ought to be determined by biopsy.

Philipowicz^{7e} believes that the results of biopsy material is not conclusive, and he prefers to rely on the clinical impression. He is of the opinion that if the patient is not intelligent, it is safer to do a radical mastectomy at once and not to take chances.

After a long discussion Siemens^{7f} draws no definite conclusions concerning the value of biopsy in cases of breast cancer. Mathews^{7g} says that biopsies must be done on early cases of carcinoma

of the breast in order to prevent doing too much or too little in the treatment.

Eberts²⁰ says that in small lesions of the breast a positive diagnosis can be made only by biopsy. But he thinks it is safer to excise the tumor than to cut into it.

Biopsy in Laryngeal Lesions:

NEW and Waugh²⁵ and Jackson and Jackson²⁶ recommend biopsy in the diagnosis of laryngeal lesions.

Tucker^{27a} recommends biopsy in laryngeal lesions and reports a case in which tuberculosis and cancer were found in the same specimen. In a later paper^{27b} he says biopsy with the use of direct laryngoscopy should be the final step in the diagnostic study of suspected early intrinsic cancer of the larynx.

Coakley²⁸ recommends biopsy in any case in which a two weeks' loss of voice has occurred after laryngeal examination in order to distinguish between cancer and some other lesion.

Biopsy in Genito-urinary Lesions:

BAILEY¹ advocates biopsy in tumors of the male urethra.

Biopsy in Mouth Lesions:

HARMER²⁹ says that the most important factor in the treatment of carcinoma and sarcoma of the upper jaw is to try to arrive at a correct diagnosis before deciding upon the method of treatment. He advocates the use of the endotherm knife in the performance of biopsy preceded by a short course of deep x-rays.

Martin³⁴ in a paper on the treatment of cancer of the lip, says that histological confirmation of a clinical diagnosis is essential, except in very small superficial lesions, which are usually keratoses.

Biopsy in Prostatic Lesions:

GILBERT²⁷ advocates aspiration biopsy in prostatic disease and points out that the diagnosis is difficult between cancer and prostatic abscess.

Biopsy in Lesions of the Rectum:

BIOPSY for diagnosis prior to instituting treatment in suspected cancer of

the rectum is always advisable and never harmful (Hayden and Shedden³¹).

Biopsy is indicated if there is any doubt of the nature of an accessible rectal growth (Brandon³²).

David¹⁸ says that examination of biopsy material is unreliable unless the specimen is obtained from the base of the tumor.

Brindley¹⁰ points out that a negative report from the microscopic study of a biopsy specimen does not necessarily exclude the presence of carcinoma because the material may not have been taken from the cancer area.

Stein and Hantsch³¹ report two cases in which the diagnosis was made from biopsy material.

Biopsy in Sarcoma:

BICK⁴ writes of the value of biopsy in skeletal muscle sarcoma.

Biopsy in Skin Lesions:

P. E. HOFFMAN³⁵ writing of cancer of the vulva says that it is difficult to differentiate early cancer from leukoplakia and that biopsy is a "very important diagnostic procedure in all cases."

Biopsy in Cancer of the Uterus:

DELPORTE, Cahen and Sluys³⁶ say that biopsy ought always to be done in the diagnosis of cancer of the cervix. They have never seen an accident attributable to it.

Norris³⁰ says that one of the chief weaknesses of biopsy lies in the fact that the tissue may not be secured from the correct area. The iodine test of Schiller and the colposcope will indicate the suspicious area from which to take the biopsy specimen.

Pearse³¹ is of the opinion that biopsy should be done on the slightest suspicion. Particularly is this so in a patient in whom supravaginal hysterectomy is being considered.

Dickinson³⁸ says that accurate histological diagnosis of a biopsy specimen is essential. The risk is very slight.

Novak^{39b} says that the general practitioner has an opportunity to increase the number of early diagnoses in cancer of the cervix if he will employ the speculum and not be content with a

digital examination. If an area of slight hardness and granular appearance, or of slight ulceration which bleeds easily, is found, he should advise biopsy. "There is no worthwhile evidence to indicate that biopsy of the cervix is fraught with any extra hazard to the patient."

PHANEUF³³ believes that early diagnosis can be established by biopsy. The electrically charged wire loop is the best instrument with which to obtain tissue from the vaginal portion of the cervix. Gentle dilation of the cervix and light scraping of the canal with the smallest dull curette will provide material from the canal. All pieces of the cervix removed at operation should be considered biopsy material and sent to the pathologist.

Weaver³⁴ advocates biopsy in cervical lesions and says it should always precede the institution of treatment because it makes possible the determination of the grade of the tumor.

Jones³⁵ is of the opinion that in cases of doubt biopsy is imperative. "The physician's hesitation to do a biopsy may have resulted from the active discussion a few years ago of the danger of spreading cancer in this way. Today that dis-

cussion is dead—so are many patients for lack of biopsy. I have never seen any harm come from it, and recommend its use in any doubtful case. It will save far more patients than it will harm."

Falk²⁵ says that "One can read reams of literature on the clinical differentiation between benign and malignant lesions of the cervix; but in the final analysis the diagnosis is established by a biopsy." In doing a punch biopsy be sure to remove a piece of the diseased tissue in such a way that normal tissue is included so that the transition from the normal to the diseased area may be studied.

Arneson³⁶ is of the opinion that before treatment with irradiation of a malignant or suspicious lesion, biopsy should be done. The removal of a small piece of tissue from a suspicious cervical lesion rarely produces uncontrollable hemorrhage. Curettage should always be done in cases of abnormal uterine bleeding.

Schridde and Berning³⁷, Nebesky³⁸, Lange³⁹, Smith⁴⁰, and Brews⁴¹ recommend biopsy as a routine method in the diagnosis of carcinoma of the cervix.

We think it is apparent that the weight of evidence is in favor of the value of biopsy in the diagnosis of cancer and of its innocuousness when properly done.

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Contemporary Progress

Treatment of Chronic Atrophic (Rheumatoid) Arthritis With Autogenous Streptococcus Filtrates

G. E. ANDERSON, A. E. LAMB, A. S. BARRITT, JR. AND L. NERB

at the Brooklyn Hospital
(*Brooklyn Hospital Journal* 1:37, Jan. 1939) report the treatment of 170 cases of

chronic atrophic arthritis with autogenous streptococcus filtrates. The diagnosis in all of these cases was carefully confirmed. The filtrates were prepared from pure strains of streptococci isolated from all recognizable foci of infection in these cases — nose, teeth, gums, tonsils, pharynx, stool, prostate, and occasionally cervix uteri. Intradermal skin tests were made with the individual filtrates, and only those filtrates producing positive skin or focal joint reactions were used in treatment. Filtrates giving such positive reactions were combined in equal parts and diluted with normal saline (with 0.5 per cent phenol added), in dilutions of 1 to 10, 1 to 100, 1 to 1000, 1 to 10,000, 1 to 100,000, and 1 to 1,000,000. The filtrates were given by intravenous injection, beginning treatment with 0.1 c.c. of a dilution which failed to give a positive skin test (usually 1 to 1,000,000). Injections were given at four to five day intervals, increasing the dose by 0.1 c.c. up to 0.9 c.c.; then the next lower dilution was employed beginning with a 0.1 c.c. dose. This "progression" was continued until the patient showed some slight improvement, when the dosage was increased "cautiously" until definite improvement was evident; all subsequent dosage was kept at about this "optimum level." Of the 170 patients treated, 146 or 86 per cent. showed definite improvement; only 24, or 14 per cent., showed

no improvement or grew worse. Thirty-nine patients, or 22.9 per cent. of the series, were entirely relieved of symptoms; 4.7 per cent. almost completely relieved; 29.4 per cent. markedly improved; 28.8 per cent. slightly but definitely improved. In the majority of patients who improved (80 per cent.), improvement occurred within three months after beginning treatment and with a small dose of filtrates

(0.9 c.c. of 1 to 100,000 dilution or less). The best results were obtained when the disease was of six months or less duration; and in patients under sixty years of age at the onset of the disease. Filtrate therapy should not be refused older patients and those with disease of long standing, as a certain percentage of satisfactory results is obtained in these groups. Results were also better in patients showing a moderate degree of skin reaction and no focal joint reactions to the intradermal skin tests; more marked reactions indicate a higher degree of sensitization and that the patient is more difficult to "desensitize."

COMMENT

This article should be read in its entirety. I like the authors' method of using filtrates prepared from pure strains of streptococci isolated from foci of infection, and their plan of using only those filtrates which produce positive skin or focal joint reactions. It is probable that the so-called foci of infection are due to a blood stream infection, and are the end result of the infection. It is unfortunate that it is so difficult to get blood cultures in these cases. My impression is that the very earliest stage of rheumatoid arthritis is often a very mild infection characterized by a slight sore throat and very little joint reaction. The throat often shows streaks of redness. If these conditions could be recognized at this point, and treated with rest and adequate diet, I believe it would be

✚ Medicine ✚

possible to prevent further trouble in many instances.

M.W.T.

The Diagnosis of Functional Indigestion

D. L. WILBUR AND J. H. MILLS (*Annals of Internal Medicine* 12:821, Dec. 1938) report a study of 354 patients in whom a diagnosis of functional indigestion was made at the Mayo Clinic, and who returned to the Clinic and were re-examined an average of seven years later. At the original examination, a wide variety of symptoms was noted, resembling those observed "in almost all types of gastro-intestinal disease"; in 299 cases, or 85 per cent., symptoms had been present for one year or longer. The original diagnosis in these cases was based on physical examination, gastric analysis, and roentgenologic examination (in most cases). At the time of the second examination, no organic disease was found in 303 cases or 85.6 per cent.; and the original diagnosis was confirmed. In 39 cases organic disease of the gastro-intestinal tract was found at the second examination; the most frequent lesion was peptic ulcer — duodenal in 19 cases and gastric ulcer in 5 cases; gallbladder disease was proved in 5 cases and "suspected" in 5 cases. In 12 patients organic disease was found outside the gastro-intestinal tract at the time of the second examination; in 2 of these cases, there was pernicious anemia and in 2 cases heart disease. In one of the cases of pernicious anemia, there was achlorhydria at the time of the first examination, and it is "quite likely" that the dis-

ease was present at this time. In most of the cases in this group it is extremely difficult to determine the relationship of the diseases eventually discovered to the original digestive symptoms. These findings indicate that the diagnosis of functional indigestion can be made "with considerable accuracy" by careful examination; the most common sources of error are apparently peptic ulcer and disease of the gallbladder.

COMMENT

The diagnosis of functional indigestion is not an easy one to make. No doubt in many instances prolonged imbalances of the autonomic nervous system are followed by organic changes in later life. Many times these cases of functional indigestion are conditioning periods for organic disease which sometimes require as long as thirty or forty years to develop. This is perhaps more often true in peptic ulcer than in other conditions. It would seem in some instances that gastric carcinoma follows what is diagnosed as functional indigestion over a period of many years. M.W.T.

Blood Plasma Ascorbic Acid In Patients With Achlorhydria

H. L. ALT and his associates at Northwestern University Medical School (*American Journal of Medical Sciences* 197:241,

Feb. 1939) report a study of the ascorbic acid of the blood plasma in 44 patients with achlorhydria associated with pernicious or iron deficiency anemia, in comparison with 24 normal controls. On diets adequate in vitamin C, the mean ascorbic acid of the blood was significantly decreased in pernicious anemia as compared with the normal, but not in the iron deficiency anemia group. On

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diets inadequate in vitamin C, the ascorbic acid of the blood was significantly decreased as compared with normal controls in both the pernicious anemia and the iron deficiency anemia groups. The values for the plasma ascorbic acid showed no correlation with the red cell count or hemoglobin in either type of anemia. No single explanation could be found for the association of vitamin C deficiency with achlorhydria; it is probable that several factors are involved, such as the lack of acid gastric juice, bacterial growth and malabsorption.

COMMENT

This is an interesting study. The blood plasma ascorbic acid test should be done more frequently, especially in the diagnosis of vitamin C deficiencies. M.W.T.

Pressor Effects of Amphetamine (Benzedrine)

W. W. DYER (*American Journal of Medical Sciences* 197:103, Jan. 1939) reports a study of the effect of benzedrine on blood pressure in normal, hypertensive and hypotensive persons. In the first series of studies, benzedrine vapor was administered to 28 normal and hypertensive subjects by 20 rapid inhalations from a benzedrine inhaler—representing “a moderately acute overdosage.” This had little effect on blood pressure; the majority of these subjects showed no change or an increase or decrease of 5 mm. These findings indicate that therapeutic doses of benzedrine vapor would not affect blood pressure except in cases of “hypersensitivity.” Benzedrine sulphate was given by mouth in doses of 20 to 30 mg. to 23 patients with hypotension, normal blood pressure or hypertension; and in doses of 10 to 20 mg. to 20 moderately ill patients, most of whom showed hypertension. With single doses of 10 to 20 mg. a significant rise in blood pressure occurred in 10 per cent. or less of the subjects. Some subjects show a decrease in blood pressure. With doses of 30 mg., the blood pressure increase is considerably greater than with 20 mg. The drug, therefore, does not appear to be contraindicated in hypertension, but a careful check on blood pressure following its ad-

ministration should be made, especially with dosage above 20 mg. A greater tendency to increase in blood pressure was noted in persons with a low resting blood pressure than in hypertensive subjects; this suggests “confirmation of the rationale” of the use of benzedrine in hypotension.

COMMENT

My own experience with benzedrine verifies the author's observations. I believe that there is a difference in the action of small doses and larger doses of benzedrine, and that with smaller doses there is not much change in blood pressure. There are many cases of arterial hypotension where there is no point in using benzedrine when the cause of the hypotension is inadequate diet, lack of fresh air, focal infection, or emotional maladjustment. In all cases of hypotension the cause should be very carefully searched for. Then, if no cause can be found, benzedrine is a good drug to use. I do not believe that this drug is contraindicated in average dosages in hypertension.

M.W.T.

Staphylococcus Septicemia

P. F. STOOKEY AND L. A. SCARPELLINO (*Southern Medical Journal* 32:173, Feb. 1939) in a review of 200 cases of staphylococcus septicemia from various hospitals, find that 13 of these were cases of osteomyelitis complicated by septicemia; in these cases the mortality was 38 per cent. In the 177 cases of staphylococcus septicemia without bone involvement, the mortality was 91.4 per cent. In 28 children less than eighteen months of age in this series, the mortality was 78 per cent., while in older children and adults it was 94.1 per cent. In non-fatal staphylococcus osteomyelitis, there is a rapid rise in the antitoxin content of the blood, but in staphylococcus septicemia without bone involvement in adults, antitoxin was found in the blood in only one instance. Staphylococcus antitoxin has recently been employed in the treatment of 17 cases of staphylococcus septicemia without osteomyelitis in adults; of these 8 recovered and 9 died—a mortality of 53 per cent., which is definitely lower than that recorded for similar cases without antitoxin treatment. The staphylococcus antitoxin was given by deep intramuscular injection;

after preliminary tests for sensitivity to antitoxin, if there is no reaction, 1 c.c. of the antitoxin is injected. If there is no reaction to this dose in the next hour, 20,000 units of antitoxin may be given at hourly intervals, until free antitoxin is demonstrable in the blood, or symptoms subside. In some cases over 100,000 units of antitoxin must be given before free antitoxin is demonstrated in the blood. If symptoms subside and then recur, the authors consider this an indication for further administration of serum. While the mortality of staphylococcus septicemia can be lowered by "the judicious and early use" of antitoxin, the results of treatment are nevertheless disappointing in at least 50 per cent. of cases and "the ideal biological" for such cases has not yet been found.

COMMENT

There is great need of some method of determining pathogenicity of staphylococci. At the moment the use of crystal violet media seems to be the best method of determining whether the staphylococcus is pathogenic or not. The best hope in treatment is in early recognition and early use of antitoxin. It is not to be wondered at that the results are disappointing in many cases if not treated at the earliest stage.

M.W.T.

+ Surgery +

Treatment of Severed Tendons and Nerves of the Hand and Forearm

M. C. O'SHEA (*American Journal of Surgery*, 43:346, Feb. 1939) reports the treatment of 870 severed tendons and 57 severed nerves of the hand and forearm in 362 patients at St. Vincent's Hospital, New York. In this series, more than half the severed tendons were in the digits, the flexor tendons being involved one and one-half times more frequently than the extensor tendons. In 36 cases with severed tendons, operation was not done, either because of severely contaminated wounds or refusal of operation by the patient. Secondary repair was done in 26

cases and primary repair in 285 cases; thus a total of 800 tendons were repaired in 311 cases. A follow-up study was made of 123 cases operated; satisfactory functional results had been obtained in 80.5 per cent. of these cases; of the tendons repaired in these cases there were 71 flexor tendons with 70 per cent. satisfactory results and 52 extensor tendons with 94 per cent. good results. There were 57 nerve injuries in 49 cases, of which 31 had associated tendon injuries. Fifty-one of the 57 nerves were repaired; all but 15 of these were operated for primary repair. A follow-up study could be made on only 18 of the 49 patients, 22 of the nerves repaired. Satisfactory results were obtained for 17 of the nerves repaired, 77 per cent. In 10 ulnar nerve repairs satisfactory results were obtained in 7—70 per cent.; of 9 median nerve repairs, 7 showed good results, 78 per cent.; while both of 2 radial nerve repairs gave good results (100 per cent.). On the basis of the methods employed and the results obtained in this series, the author comes to the following conclusions: Primary repair of tendons should be done whenever possible. The simple mattress stitch, which will approximate the tendon ends and destroy fewer lymph channels, is preferable to more elaborate methods of suture. The suture material of choice is fine black silk; the finest grade of silk that will give the required tensile strength is used. The use of black silk sutures has been found to reduce the incidence of infection and edema, as compared with chromic catgut sutures for tendon repair. Motion should be started at an early date; the use of black silk sutures permits this. The "end results" of tendon repair are "impaired and retarded" by complicating fractures, dislocations, and other associated injuries. If both digital flexors in the hand are severed, only the longer flexor—the profundus—should be repaired. If there is an evulsion of skin over tendons or nerves, full thickness skin grafts should be employed as early as possible. For suturing severed nerves, interrupted black silk sutures are passed through the neurolemma sheath; in addition a suture may be passed through the trunk of the nerve about 1 cm. from its severed ends without injury to nerve fibers. Perfect approximation of the

severed ends and gentle handling of all nerve tissue are important in nerve repair.

COMMENT

This carefully analyzed and reported series of cases in 362 patients is of the type most valuable practically to the surgeon and his patients. Tendons and nerves of the forearm are of inestimable importance. The author's quotation from Kanavel, however well-known, is worth re-reading again and again, as is his otherwise incisive and eloquent introduction. More articles of this type presented and read and studied will make for increased efficiency in this branch of traumatic surgery. C.H.G.

End Results After Gallbladder Operations

S. G. MEYERS, D. J. SANDWEISS and H. C. SALTZSTEIN (*American Journal of Digestive Diseases*, 5:667, Dec. 1938) report a follow-up study of 165 patients on whom 199 operations for biliary symptoms had been done. The average period of the follow-up study was seven and a half years. In 102 patients, cholecystectomy was done and stones were found in the gallbladder at operation. In 72 patients (70 per cent.) results were good with subsidence of all or almost all symptoms; in an additional 13 patients (13 per cent.) results were "fair" with considerable relief of symptoms. Only 17 patients showed no definite improvement after operation in this group. In 34 cases in which cholecystectomy was done, and no stones found in the gallbladder, only 12 patients (35 per cent.) obtained good results and 2 others (6 per cent.) fair results. In the non-calculous group, results were almost uniformly unsatisfactory in those cases in which there had been no typical biliary colic prior to operation. The most frequent causes of recurrent symptoms after operation of biliary tract origin were stones in the common or biliary duct, residual biliary tract infection, and biliary dyskinesia. Residual symptoms after gallbladder operations were found in some cases to be due to other lesions in the gastro-intestinal tract—chiefly intestinal adhesions, causing partial obstruction, spastic colon, or peptic ulcer. In 31 cases cholecystotomy was done (34

operations); only 5 obtained relief from both colic and indigestion, and 7 relief from colic but not from indigestion; 14 of these patients had a subsequent cholecystectomy.

COMMENT

This is a valuable contribution because of the careful classification of end results.

C.H.G.

A New Method of Treatment in Benign Stricture of the Bile Ducts

G. E. WILSON (*Surgery, Gynecology and Obstetrics*, 68:288, Feb. 15, 1939) discusses several methods of treatment that have been employed for the relief of benign stricture of the bile ducts, and describes a new method with report of a case in which this method was used with success. Benign stricture of the bile ducts, he notes, occurs most frequently following a cholecystectomy. The operation of choice in such cases is end-to-end suture or the direct anastomosis of the duct to the duodenum, when this can be done "without tension." Reconstruction of the duct over a buried rubber tube is attended with many "difficulties and dangers." The Wilms-Sullivan operation with implantation of the biliary fistula into the gastro-intestinal tract, the author finds gives unsatisfactory results and "is accompanied by a very high mortality." In the new type of operation described by the author, the ducts are exposed in the ordinary way (always a difficult and tedious procedure); the dilated portion of the duct is isolated and definitely identified by aspiration with a hypodermic needle; it is then slit sufficiently to introduce a tube about the size of a No. 20 French catheter, and the opening closed around the tube by suture. The tube is then buried for a distance of about 2 inches in the anterior wall of the stomach commencing just proximal to the pylorus by oversewing it with a running stitch of catgut. Omentum is tucked around the exposed portion of the tube, and the free end of the tube brought out through the upper portion of the abdominal incision, where it is fastened with a silkworm stitch and the incision closed. The author's original intention was to with-

draw the tube in about three months when a new channel would be established, insert an internal urethrotomy knife, "cut through the wall and produce an internal fistula." In the case reported, in which this operation was done, it was found, however, that "nature, apparently by a process of ulceration, had accomplished this for us." The patient has been well for nearly five years and has never had an attack of jaundice, since operation. The procedure described is a simple one that can be carried out quickly—a definite advantage in such operations on the bile ducts.

COMMENT

A rather rare condition is thoughtfully considered and various methods of treatment evaluated. The author suggests a seemingly simple procedure which was once notably successful with the patient well after nearly five years. C.H.G.

Repair of Hernia With Plantaris Tendon Grafts

R. PILCHER of London, England (*Archives of Surgery*, 38:16, Jan. 1939) describes the use of the plantaris tendon in the repair of hernia. This tendon "lies in a plane that is mainly avascular" and can be removed with a minimum of trauma through two small incisions over its ends. The plantaris tendon "has the curious property of lateral stretching without splitting"; even a slender specimen can be pulled out into "a sheet" 2 inches (5 cm.) wide. On account of this property, the tendon is used as a graft and not as a suture in the repair of inguinal hernia, to reenforce the posterior wall of the inguinal canal. The graft is fixed with unabsorbable sutures of thread or silk, in "a zigzag pattern", being sutured alternately to the inguinal ligament and the conjoined tendon "or one of its components"; adjacent strands of the graft are then sutured to each other, which can be done without tension owing to the lateral stretching property of the tendon. In this way the "grid" of the tendon strips is converted into a continuous sheet. As the graft is tendinous, it is probably less easily absorbed than fascia lata; the use of unabsorbable sutures excites fibrosis which persists, even if absorption ultimately takes place.

COMMENT

This author compares the use of plantaris tendon with fascia lata and non-absorbent sutures. C.H.G.

Dextrose Utilization In Surgical Patients

S. B. WINSLOW (*Surgery*, 4:867, Dec. 1938) reports a study of the utilization of a 5 per cent. and of a 10 per cent. solution of dextrose given intravenously to surgical patients where a high caloric or high carbohydrate intake was necessary. It was found that the 10 per cent. solution, which is hypertonic with blood, is mildly diuretic. With the 10 per cent. solution 95 per cent. of the dextrose administered was utilized, giving 93 per cent. more carbohydrate than an equal volume of 5 per cent. dextrose solution at the same rate of administration. Although no ill effects were observed with administration of the 10 per cent. solution at the rate of 500 c.c. per hour, a rate of 200 to 300 c.c. per hour was found preferable as increasing the utilization. Because of the greater intake of carbohydrate made possible by the use of 10 per cent. dextrose, this solution is preferred by the author "in the presence of liver damage, thyroid crisis, inanition and cachexia."

COMMENT

Here are studied the relative values of five per cent and ten per cent dextrose solutions to surgical patients who require high caloric or high carbohydrate intake, as "in the presence of liver damage, thyroid crises, inanition and cachexia." The findings are of great interest and unquestioned value.

C.H.G.



Urology



Sympathectomy for the Relief of Vesical Spasm and Pain

R. M. NESBIT and F. C. MCLELLAN (*Surgery, Gynecology and Obstetrics* 68:540, Feb. 15, 1939) report 6 cases in which presacral neurectomy (resection of the presacral nerves) was done; in 4 of these cases the operation was made more

extensive by also "interrupting the lateral sacral sympathetic gangliated chain by means of exeresis." All these patients had severe spasmodic bladder pain and some degree of difficulty in voiding urine prior to the operation, but none had residual urine. All required general anesthesia for cystoscopic examination; and cystometric examinations showed definite hypertonicity of the detrusor mechanism. In all these cases, the operation relieved bladder spasm, with its "associated excruciating pain"; there has been no recurrence of spasm or spasmodic pain. All the patients voided urine with ease after operation, and in one of the 4 female patients a slight urinary incontinence developed. Cystoscopic examinations could be made under local anesthesia after operation. All the patients, however, showed some residual bladder lesion and complained of pain or forcible distention of the bladder. None of the 3 patients with Hunner ulcer showed any improvement in that lesion, nor relief from the discomfort associated with bladder distention in this disease. None of the patients, therefore, can be considered cured by the sympathectomy operation, but all are "satisfied and grateful for the relief of their intolerable pain." From these results and study of the literature on sympathectomy in bladder pain, the authors conclude that sympathectomy relieves bladder pain "not by removing the essential afferent pathways from that viscus, but by relieving spasm of the internal sphincter and perhaps other parts of the bladder musculature." Sectioning of the hypogastric nerves (presacral nerves) appears to give as adequate relaxation of the sphincter and relief of spasmodic pain as the more extensive operation with exeresis of the lateral sacral sympathetics.

COMMENT

Very fine elements in this study are the admissions that the results are chiefly, if not solely, symptomatic cures, and the position in favor of the more conservative operation, as used, in contrast with radical exeresis of the lateral sacral sympathetics. V.C.P.

MEDICAL TIMES, APRIL, 1939

The Significance of Staphylococci In Renal and Ureteral Stones

J. HELLSTRÖM of Stockholm, Sweden (*British Journal of Urology* 10:348, Dec. 1938) reports 100 cases of renal and ureteral stone, in which "the presence of genuine staphylococcus stones has been proved by analysis of the concretions." Over half of the cases (57) showed multiple stones; this indicates that multiplicity of stones occurs more frequently in staphylococcus stones than in other types. Most of the stones were relatively small and often passed spontaneously. In all cases the organic substance of the stone was composed largely of staphylococci. In examination of the freshly voided urine of patients with staphylococcus stones, the usual findings are: No albumin or only a trace; and in the sediment, a moderate number of leukocytes, few, if any, red blood cells, no casts and numerous staphylococci. This picture may vary if the infection is in an acute phase. If the urine specimen is allowed to stand for a short time, the sediment usually contains ammonium magnesium crystals and amorphous phosphate; ammonium urate is found only if the specimen is kept for some time in the thermostat. Amorphous phosphate and triple phosphate crystals may also be found in fresh urine. The staphylococci in the urinary sediment in these cases usually occur in masses; other bacteria may be associated. As staphylococcus stones are usually "rich in calcium salts", they are demonstrable roentgenologically. Examination of operative specimens in these cases of staphylococcus stones showed chronic pyelitis and ureteritis as a rule, but only slight parenchymal lesions, although staphylococci are believed to be a common cause of purulent processes in the kidney. Eighty of the patients in this series required operation; nephrectomy was done in 25 cases; ureterolithotomy in 31; pyelolithotomy in 28; and nephrolithotomy in 21 cases. Follow-up studies were done in most of the cases, but only 26 patients were found to be free from stones with sterile urine. Nephrectomy had been done in 7 of these cases. Recurrence, probably due to stones left behind, occurred in 5 cases; recur-

rence, because of a "genuine new formation of stones", was noted in 25 cases. In these cases, a persistent or recurrent staphylococcal infection was the chief cause of the recurrence. Other urinary infections may contribute to the formation of renal and ureteral calculi, but in the author's experience, only staphylococcus infection of the urinary tract frequently produces stones of a characteristic type.

COMMENT

This painstaking study is of great merit throughout but especially in the follow-up report—that persistent and recurrent staphylococcal infection was the cause of recurrence. Unfortunately, even intelligent patients are reluctant to accept preventive follow-up. Here is one case like Hellstrom's. Urinary condition about the same in 1936, during a shower of crystals in the urine. No follow-up allowed. In 1939 all the symptoms of calculous colic. Urine loaded with slugs of mucus about the size of large casts and richly embedded with crystals. Microscopic hemorrhage into the urine. No calculus shown in x-ray. Follow-up again refused. The next step will be one or more organized stones and all they mean. As I have said many times, surgical relief is only relief. The cure of these cases is medical cure of the infection. V.C.P.

Sulfanilamide In Urinary Infections

S. A. VEST, J. H. HILL and J. A. C. COLSTON (*Journal of Urology* 41:31, Jan. 1939) report experiments on the bactericidal effect of sulfanilamide in infected urine, and also the clinical use of the drug as a urinary antiseptic in the surgical urological service at Johns Hopkins Hospital. In the *in vitro* experiments, sulfanilamide was found to be directly bactericidal against *Staphylococcus aureus*, *Escherichia coli*, *Aerobacter* and *Proteus*; but this bactericidal action was not demonstrable if large numbers of any of these organisms were present. The greatest reduction in the number of organisms was observed in the first eight hours. *Aerobacter* was more resistant than the other organisms studied. Sulfanilamide was used in the treatment of 109 cases of urinary infection in the surgical urological service—chiefly prostatic disease. Most of the patients were of advanced age, and

moderate doses of sulfanilamide were employed in all cases. In cystitis complicated by such conditions as tumors, marked contracture of the bladder, calculi, etc., only 14 per cent. of cases could be sterilized by the use of sulfanilamide; but in cases of cystitis with less serious complications, 86 per cent. were sterilized. In nonoperative prostatic conditions—prostatitis, etc.—40 per cent. were sterilized. After prostatectomy, 40 per cent. of infections following recent operative procedures were sterilized with sulfanilamide. In cases of persistent infection, not treated for at least a month after operation, 60 per cent. were sterilized. Better results were obtained with single infections than with mixed infections. The highest percentage of successful results was obtained in infections with *Escherichia coli*; *Aerobacter* was only "slightly less responsive" in these clinical cases, although this is somewhat at variance with the experimental findings; *Aerobacter* was present in some in the most persistent urinary tract infections. Sulfanilamide was also effective in staphylococcus infections, somewhat more so with *albus* than with *aureus*; and in some instances of *Proteus* infections. The authors conclude that sulfanilamide, even in moderate dosages, is "a most potent antibacterial agent" in urinary infections, and can be used in many cases in which mandelic acid, "our next most valuable agent", has not proved efficacious. It must not be used "indiscriminately", however; in some cases, infected with certain types of organisms, other agents are preferable.

COMMENT

A very important point in the successful action of any antiseptic is the question how far has the infection itself so changed the tissue that its resistance can hardly be restored. In point is the fact that mucous membranes never return to normal after they have been damaged beyond a certain degree. This study tends to demonstrate that fact because only 14 per cent were sterilized in those lesions in which the mucosa was profoundly damaged, namely, the cystitis of tumor, marked contracture, calculi, etc. Even if the infection is greatly reduced the pathology of the mucosa continues. Beyond question sulfanilamide is far from a swift-sure cure-all but it has great actual values and probably greater potential values as we come to know it better. V.C.P.

Pyelograms In Triplicate

In 1931 T. D. MOORE (*Journal of Urology* 41:177, Feb. 1939) described a simple device for obtaining three serial pyelograms on one standard film, sometimes referred to as "pyelograms in triplicate." The apparatus consists of a tunneled tray, interchangeable with the usual Bucky diaphragm tray and permitting rapid shifting of a cassette. He has used this procedure as a routine in "diagnostic urography" for the past eight years, and has demonstrated its many advantages. Serial films are particularly necessary in the study of strictures, kinks, and atony of the ureter; and in the study of "pain syndromes" referable to the upper urinary tract. In a series of pyelograms obtained on 154 patients, some degree of kinking of the ureter was noted in 57 cases, yet in only 10 cases was the kink constant in all three exposures. The pyelogram in triplicate has also been found of special value in determining the site and nature of the obstruction in hydronephrosis, in ascertaining the degree of renal mobility, in the diagnosis of intrapelvic filling defects and perirenal inflammatory conditions, and in the identification of shadows in the renal area. Small filling defects in the pelvis that are easily overlooked in the single pyelogram are strikingly demonstrated when constantly present in the triple exposures. The author notes also that "the economy of films made possible by this device is worthy of mention."

COMMENT

These triplicate pyelograms must have the same study values as slow-time moving pictures. In my opinion they represent an advance comparable with intravenous pyelography. Muscular action may constrict the ureter and simulate a stricture with retention above it. In this study only 10 such pictures were constant in 57 examples; thus 47 mistakes were avoided. Other variables such as filling defects became settled, not doubtful, questions. V.C.P.

Results of Prostatic Resection After Five Years

L. M. ORR and E. H. HONKE
(*Urologic and Cutaneous Review* 43:91,

Feb. 1939) report a follow-up study of 37 patients who had been treated by transurethral resection for hypertrophy of the prostate five years or more previously. Of these 37 patients, 26 were examined cystoscopically. Thirty-three of these 37 patients had obtained "both objective and subjective relief" from symptoms of urinary obstruction for the entire period since operation. Three patients had not had complete relief because of removal of an insufficient amount of tissue. One had not benefited because of atony of the bladder. Of the 26 patients examined cystoscopically only 5 showed any residual urine. In 14 cases the urine was free from bacteria and leukocytes. At the time these patients were operated no attempt was made to remove more prostatic tissue than necessary to "insure an adequate prostatic urethra"; now the importance of removing as much prostatic tissue as possible is recognized. The results in this series indicate that the relief of urinary obstruction obtained by transurethral resection of the prostate "compares quite favorably in permanency of results with any other type of procedure."

COMMENT

This study is helpful in showing terminal results after a 5 year period and, therefore, corresponding with the interval of 3 or more years as the standard of cure of cancer. The high rate of relief of obstruction and the low rate of residual urine are acceptable standards, but in my practice I always aim at freedom from infection in the urine because normal urine has no infective bacteria. Only 14 cases of 37 were so cured. V.C.P.

+ Pediatrics +

Endocrine Manifestations In Juveniles Diabetes

PRISCILLA WHITE (*Archives of Internal Medicine*, 63:89, Jan. 1939) reports that in 1,250 patients with juvenile diabetes (onset of the disease before the age of fifteen), studied at the New England Deaconess Hospital, Boston, 177 showed evidence of prolonged

pituitary involvement. In 176 of these cases, the anterior lobe was involved, 9 showing evidence of hyperfunction and 168 of hypofunction; these included 94 pituitary dwarfs, 22 with Fröhlich's syndrome and 51 with signs of infantilism. Only one patient showed evidence of dysfunction of the posterior pituitary. None of the patients showed signs of thyroid deficiency; 3 showed hyperthyroidism; one had a possible adrenal disturbance; and 28 had symptoms related to the gonads. Sixty-five showed liver disturbances "which may or may not have been of endocrine origin." In studying the relation of the anterior pituitary to diabetes, in cases in which adequate data were available, it was found that there was definite evidence of hyperfunction of the anterior pituitary prior to the onset of diabetes, as shown by excess growth in height and osseous development in this prediabetic period. But when diabetes develops, hyperfunction of the anterior pituitary does not persist, but is followed by hypofunction in the average case, as shown by retardation of growth in diabetic children, which in "its extreme manifestation" may result in pituitary dwarfism. Other evidences of anterior pituitary hypofunction, as noted in this series, are Fröhlich's syndrome and infantilism. In cases in which pituitary dwarfism in diabetic children was treated by the administration of anterior pituitary extracts containing the growth hormone, growth was definitely accelerated, but the diabetes appeared to become more severe, as the insulin requirement was higher. No definite evidence of the relation of the thyroid or the gonads to diabetes was found in the study of the cases in this series. No form of therapy in diabetes "yet compares with insulin therapy", but "the interrelationship of the endocrine glands gives the clue for future research."

COMMENT

Juvenile diabetes and Dr. Priscilla White are practically synonymous. The observations of the above mentioned 177 cases with prolonged pituitary involvement opens up a new channel of thought in the treatment of diabetes.

The medical profession should be grateful that Dr. White, with her meticulous atten-

tion to details, was the one to open this door. At present, as she states, endocrine therapy, associated with insulin therapy, should be used with extreme caution.

Here's hoping we hear more from Dr. White. O.L.S.

Whole Milk Plus Carbohydrates In Early Infant Feeding

E. T. WILKES (*Archives of Pediatrics*, 56:106, Feb. 1939) reports the use of whole milk with 3 to 6 per cent dextrin-maltose or cane sugar added in the feeding of 40 infants ten days to thirteen weeks of age (at the beginning of the observation period). They were under observation for periods varying from five to forty-two weeks, the average observation period being 16.2 weeks. A control group of 32 infants who were either breast fed or given the usual dilute milk mixtures with cane sugar or dextrin-maltose added was under observation at the same time. In preparing the whole milk feedings, the milk was heated to boiling, as this, the author has found, increases its digestibility. The additional foods—orange juice, cereal, etc.—were given at the same age period in the whole milk and the control groups. The average weekly gain in the infants on whole milk under six weeks of age was 9.1 ounces, in the control group for the corresponding age period, 8.0 ounces (not including the first two weeks of life in this group). In the infants from six weeks to six months of age, the average weekly gain in weight in the whole milk group was 7.2 ounces and in the control group 6.9 ounces. In the infants over six months of age, the average weekly gain in the whole milk group was 3.7 ounces and in the control group 2.9 ounces. One child in the whole milk group developed a severe diarrhea, but this was associated with the onset of miliary tuberculosis which proved fatal (human type infection). Three other infants in this group developed a slight diarrhea (two in the summer months), which cleared up promptly within four days under treatment with boiled skimmed milk and forced fluids; these infants were returned to the whole milk formula without further indigestion. Three infants in the control group also had diarrhea and one "gastro-intestinal indigestion." In several babies in the whole milk group, the

stools had an offensive odor, owing to the use of the concentrated formula; in a few other babies more gas was produced than with the dilute formula, although they showed no digestive "upset." In his private practice the author has found that infants who are unable to take sufficient amounts of a dilute formula to gain weight properly, do well on whole milk plus carbohydrate. He does not urge the use of whole milk plus carbohydrate as a routine in infant feeding, but is of the opinion that there should be no hesitation in making use of this method of concentrated feeding for infants who do not gain sufficiently on the usual dilute milk formula.

COMMENT

Whenever articles depicting the routine use of concentrated milk, water and sugar formulae are written, I can not resist the temptation to call attention to the fact that simple milk, water and sugar dilutions have withstood the test of time and, today, the fact remains that dilute formulae are much safer for routine feeding of infants. I am grateful that Dr. Wilkes calls attention to this fact in his article.

Infants' gastro-intestinal tracts are tuned to digest human milk as was the case of yester-year. When it becomes necessary to feed a milk from bovine sources, the gastro-intestinal tract of the infant must be re-educated to digest this type of food supply. Because cow's milk and its derivatives are of such a high quality as compared to milk twenty or thirty years ago, with its associated reduction in gastro-intestinal infection, it is possible for the infants' gastro-intestinal tracts to make this adjustment very much more rapidly than was previously the case. As Dr. Wilkes has shown, concentrated formulae can be fed where indicated in a specific case.

Let us not overlook the danger of over-feeding, which is as serious in many instances as under-feeding. O.L.S.

Crystalline Vitamin C In Infantile Scurvy

A. S. KENNEY and M. RAPOPORT (*Journal of Pediatrics*, 14:161, Feb. 1939) report the use of crystalline vitamin C (ascorbic acid) in the treatment of infantile scurvy. In 19 infants the crystalline vitamin C in the dosage of 1.83 mg. per kg. daily was given for

five months as a prophylactic against scurvy; none of these infants developed clinical symptoms or roentgenologic signs of scurvy. In 21 cases of infantile scurvy crystalline vitamin C was used in treatment. In most cases it was given orally dissolved in 5 to 10 c.c. of water; in some cases it was given intravenously dissolved in normal or hypotonic saline solution. In all cases satisfactory healing was secured; the typical clinical symptoms receded first; later the roentgenologic examination showed complete healing of the bones. The dosage was varied; the total dosage necessary to effect clinical healing varied for 100 to 500 mg. with an average of 310 mg. The vitamin C therapy had no constant effect on the capillary resistance. In 3 of 5 infants in whom the effect of crystalline vitamin C on the blood was studied, there was a definite increase in the hemoglobin, red cells, or both; in the other 2 cases, no such increase was noted. In these cases, the authors suggest, the iron reserve was so far depleted that iron was not available for hemoglobin formation.

The Anemia of Rheumatic Fever

J. P. HUBBARD and M. H. McKEE (*Journal of Pediatrics*, 14:66, Jan. 1939) report a study of 17 children from five to sixteen years hospitalized for rheumatic fever for prolonged periods, during which time acute exacerbations of the disease occurred in most instances; two patients showed two such exacerbations each. A study of the blood changes before, during and after such acute exacerbations showed that an anemia of the secondary type, often quite severe, occurred during the active phase of the disease. As the infection subsides, the blood levels tend to return to normal. In rheumatic children, therefore, the presence of a definite anemia is an indication of continued activity of the disease, and should be added to other criteria of such activity.

Prophylactic Use of Parental Blood Serum In a Pediatric Ward

L. H. BARENBERG and his associates at the Morrisania City Hospital, New York (*American Journal of Dis-*

eases of Children, 57:322, Feb. 1939) report the use of parental blood serum in "an active pediatric ward" in the Hospital. The usual method of isolation practiced in general hospitals has proved inadequate to prevent outbreaks of measles, diphtheria and scarlet fever in wards where susceptible infants and children are cared for. For the last three years, each child admitted to the medical pediatric ward of the Morrisania Hospital has been given an intramuscular injection of 20 to 30 c.c. of blood serum obtained from one of the child's parents. This serum was readily absorbed and caused no untoward reaction. The surgical pediatric ward served as a control, as no serum was used in this ward. During the four years preceding the use of parental serum in the medical ward, 13 outbreaks of contagious disease occurred in the medical ward and 13 in the surgical ward. During the last three years in which parental serum has been employed in the medical ward, there has been no outbreak of contagion in this ward, and 12 outbreaks in the surgical ward. These results were not due to lack of exposure or contact with contagion in the medical ward, as these conditions were the same as before the use of parental serum. An additional benefit from the use of parental serum was the saving of many days of hospital residence to the medical pediatric ward.

Erythrophagocytosis In Anemia Of the Newborn

T. C. WYATT, M. B. COOPER and W. A. GROAT (*American Journal of Diseases of Children*, 56:1319, Dec. 1938) report 3 cases of severe anemia of the newborn in which careful study of the blood films showed evidence of phagocytosis of the erythrocytes. This phenomenon was more definitely demonstrated in the first 2 cases than in the third case. In the latter case treatment was instituted earlier than in the other cases—a transfusion being given on the third day of life. In all the 3 cases the phagocytic cells belonged to the monocytic type. In a review of the literature the authors found only 4 other cases in which erythrophagocytosis was demonstrated in anemia of the newborn. In the authors' first case erythrophagocytosis and anemia preceded abnormal erythroblastosis, as shown by the first blood count. The authors note that the number of phagocytes was small in all their cases, and the erythrophagocytosis *per se* could not account for the severe degree of anemia which these infants showed. The phagocytic activity, however, is an indication that there was "a fundamental variation from the normal on the part of either the monocytes or the erythrocytes."



THE GALLBLADDER AND FOCAL INFECTION

WITH or without symptoms directly referable to chronic cholecystitis the gallbladder may be the site of toxin formation and the resulting toxemia may have far reaching effects. This form of infection is known as focal sepsis. Common manifestations of focal sepsis consequent on cholecystitis are pallor with marked sallowness, irregularity of the cardiac rhythm consequent, in the main, on premature contractions (extrasystoles), panniculitis, easy fatigue, and absence of pyrexia. Chronic multiple arthritis of the infective type is rarely due to this cause since arthritis is far more frequently associated with focal sepsis due to *Streptococcus viridans* than to coliform infection. . . . Very rarely is focal sepsis of gallbladder origin responsible for the maintenance of certain allergic states such as asthma and urticaria.

A. E. Cow, M.D., in *Practitioner*, June, 1938

MEDICAL TIMES, APRIL, 1939

Medical Book News

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, New York.

Edited by Alfred E. Shipley, M.D., Dr. P.H.

Cerebrospinal Fluid

THE CEREBROSPINAL FLUID. By H. Houston Merritt, M.D. and Frank Fremont-Smith, M.D. Philadelphia, W. B. Saunders Company, [c. 1937]. 333 pages, illustrated. 8vo. Cloth, \$5.00.

This book presents in a clear, concise manner all the available present-day knowledge of the cerebrospinal fluid. Recognized and proved tests are correlated, and the findings in cases that have come to a definite conclusion are so presented as to make it possible to match with considerable accuracy the findings of a problem under study. The results of therapy and the changing pattern of the cerebrospinal fluid as a case progresses are vividly demonstrated. An attempt is made to eliminate ambiguous possibilities and to speak in more definite terms of when and how changes in cytology and chemistry are to be met with in the cerebrospinal fluid. This is a book that should be in every physician's library.

ABRAHAM M. RABINER.

Another Bacteriological Text-Book

A TEXTBOOK OF MEDICAL BACTERIOLOGY. By David L. Belding, M.D. and Alice T. Marston, Ph.D. New York, D. Appleton-Century Company, [c. 1938]. 592 pages. 8vo. Cloth, \$5.00.

This textbook represents an attempt to present a vigorously growing subject to medical students in a manner which,

to this reviewer, is altogether too concise. Unless this text is complemented by an extensive and comprehensive lecture course the student's knowledge of bacteriology would be entirely too limited. Our experience in teaching leads to the conclusion that a relatively full discussion of the subject matter is far more satisfactory to both teacher and student than condensed versions. For purposes of review this book ought to be of distinct help.

MORRIS L. RAKIETEN.



Andreas Vesalius
1514 ~ 1564

Classical Quotations

● I dream once more to be able to study that true Bible, as we count it, of the human body, and of the nature of man.

Andreas Vesalius. From a letter written shortly before his death.

in the explanation of symptoms and physical signs makes the book different from most other volumes of this type. This phase of medicine not only plays an important part in the understanding of disease but provides a groundwork for rational therapy, so that a thorough familiarity with it is essential to the successful practice of medicine. The illustrations are extremely valuable in clarifying the text. In the present edition some of the original descriptions have

Meakins Brought Up To Date

THE PRACTICE OF MEDICINE. By Jonathan Meakins, M.D. Second edition. St. Louis, The C. V. Mosby Company, [c. 1938]. 1413 pages, illustrated. 4to. Cloth, \$12.50.

The fact that a second edition of this text book is called for two years after the first testifies to its worth. The stress laid upon pathological physiology

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been changed and several new sections have been added. It has been brought fully up to date with the inclusion of accepted advances which have been made in medicine since the last edition was completed. This volume represents an exposition not only of the classical descriptions of different diseases but an expression of the best thought of physicians as to their different manifestations. As such it can be thoroughly recommended to all those interested in the medical aspects of disease.

J. HAMILTON CRAWFORD.

Karsner's Pathology Revised

HUMAN PATHOLOGY. A Textbook. By Howard T. Karsner, M.D. Fifth edition. Philadelphia, J. B. Lippincott Company, [c. 1938]. 1013 pages, illustrated. 8vo. Cloth, \$10.00.

Karsner's text book of "Human Pathology" represents one of the bulwarks in the American literature on pathology.

It is truly a book on human pathology, and in none of its 1013 pages departs from the meaning of its title. It now appears in its 5th edition, and in this form has lost none of its former excellence. It is beautifully illustrated; many of the pictures are clear and to the point. The photographs and colored drawings are decidedly superior to the black and white almost schematic pictures.

The author discusses his various subjects in an impartial way with many references to those authorities who have contributed to modern thought. These are included in a series of 22 chapters divided into 2 parts. The first part, of 12 chapters, is devoted to general pathology, while the second part of 10 chapters is

concerned with the pathology of the various systems. Each chapter has a corresponding reference to the literature, which includes the essential contributions to the subject matter discussed, and is useful not only for the original articles, but as a guide for more extensive reading. The construction of the volume from this point is very practical and useful.

Of course in a work so comprehensive and containing so much material of a controversial nature, many views are expressed with which one might differ. And so it is with this book; this fact does not detract from its authoritativeness, but rather stimulates thought. As a textbook for students and practitioners who wish to learn pathology or to refresh their knowledge of it, and who also wish to be acquainted with the progress of pathology, this book is recommended.

MAX LEDERER.

Marital Guide for Women

FEMININE HYGIENE IN MARRIAGE. By A. F. Niemoeller, M.A. New York, Harvest House, [c. 1938]. 155 pages, illustrated. 12mo. Cloth, \$2.00.

Of the many books on sexual matters, and those concerning feminine hygiene written for the laity, this is one of the best.

The text is written in simple language, with the necessary medical terminology translated alongside; and most important of all, the author adheres strictly to the latest theories and facts.

Among its best chapters are those on the physiology and disorders of menstruation, vaginal hygiene, venereal diseases in women, marriage hygiene, and change of life.

There are several simple drawings to depict the anatomy of the pelvis.

This book is highly recommended to women as a guide in their marital and personal hygiene.

JACOB HALPERIN.

Physiology Scientifically Considered

FEARFULLY AND WONDERFULLY MADE. The Human Organism in the Light of Modern Science. By Renée von Eulenburg-Wiener, New York, The Macmillan Company, [c. 1938]. 472 pages, illustrated. 8vo. Cloth, \$3.50.

This is a valuable contribution to medical literature, covering the entire structure of the human body, detailing the functional activities of each of the organs in relation to the chemistry and physiology of life.

The authoress has placed in a single volume the recapitulation of her own work, as well as the work done by many writers of whose labors she has availed herself, in setting forth her own investigations and the conclusions made therefrom. To one who wishes to clarify his mind in modern procedure, there is no second choice to this book. The field begins with embryology and ends with the special senses, all being well covered and coordinated. The various organs are carefully enlarged upon both as to physiology and function. The interrelation of the various organs has been carefully elucidated and verified. The ductless glands are presented in a most lucid manner, and clarify many questions formerly held in doubt. The chapter on Hormones is well worth reading because of the statements covering the thyroid, parathyroid, pineal and adrenalin glands.

The more recent studies in vitamins are presented so that we may better evaluate just the purpose of their use. While they are necessary for nutritional purpose, they do not supply nourishment. They serve a different purpose and may be called food hormones.

In a short review, justice cannot be paid to the vast fields of studies covered in the volume. Embryology, biology, inorganic and organic chemistry, physiology and histology, glandular function, etc., are most minutely presented. Although difficult reading, because of the deep study by the authoress, it is a book well worth being placed in a home library for consultation on various problems as well as for enlightenment and enlargement of the knowledge of the human body.

EUGENE W. SKELTON.

A Practical Otolaryngology

DISEASES OF THE NOSE, THROAT AND EAR. By W. Wallace Morrison, M.D. Philadelphia, W. B. Saunders Company, [c. 1938]. 675 pages, illustrated. 8vo. Cloth, \$5.50.

This work is a practical exposition of clinical anatomy, physiology, and treatment in the field of otolaryngology. It is recommended. It is intended for the student and general practitioner and is not "just another book." The author has gleaned from his large clinical and teaching experience and from literature the best practice in otolaryngology including peroral endoscopy and allergy.

The author aims to be concise, clear and practical rather than theoretical. He expresses simply the modern viewpoint without wading through the operations, treatment, and mistakes of the past. Naturally a text of less than seven hundred pages must deal lightly with much of so vast a field, yet the whole is admirably covered in all essentials.

Illustrations are good and description is excellent. There is a symptom index and a medication for patients formulary. The chapters are well stated, and their subdivisions with page numbers so arranged that the book is an easy and speedy reference and a very good one.

CHARLES R. WEETH.

Story of a Doctor's Life by a Great Novelist

DOCTOR BRADLEY REMEMBERS. By Francis B. Young, New York, Reynal & Hitchcock, [c. 1938]. 522 pages. 8vo. Cloth, \$2.75.

This is a novel, and a good one, dealing with the life of a general practitioner in the mining and factory district—Black Country—of England, by a prolific author who has had medical training. The medical aspects of the story are handled with an intelligence that comes from personal experience, and the central figure, Dr. John Bradley, is strongly characterized and made a living and likable man and doctor.

The story opens with Dr. Bradley, now over seventy years of age, sitting in his antiquated surgery in Sedgebury, waiting the coming of the young doctor who has bought out his practice. He has signed off everything but his "books" of unpaid accounts. Now Dr. BRADLEY REMEMBERS. Resting there at the fireplace, he retraces his life. The time of the story, therefore, goes back to 1880, when Listerism was still being evaluated and "laudable pus" taken seriously. He recalls a frustrated boyhood and his apprenticeship to a remarkable character, a bone-setter and irregular practitioner, who taught him some theory but much anatomy, and bequeathed him enough money to fire an ambition to study medicine. He was a serious and conscientious student but not equipped to study for advanced standing and began his general practice. The great satisfaction of successful practice is nullified by the tragedy of his wife's death from puerperal sepsis in her second pregnancy and

the death of his son from morphine poisoning after a losing struggle to make the grade as a medical student. Poor Dr. Bradley is now alone but he manages to carry on after a fashion, a civilian doctor during the World War and a panel doctor when this type of practice was introduced. We last see him, fading into the gloom of the alley leading to his office, being led to a midnight call by the grandchild of the patient, and the last thing he remembers is NOT to sell the books of his unpaid accounts. A fine old man and doctor was Dr. Bradley, and a good story is woven around him.

JOSEPH RAPHAEL.

Oertel's Special Pathology

THE SPECIAL PATHOLOGICAL ANATOMY AND PATHOGENESIS OF THE CIRCULATORY, RESPIRATORY, RENAL AND DIGESTIVE SYSTEMS INCLUDING THE LIVER, PANCREAS AND PERITONEUM. By Horst Oertel. Montreal, Renouf Publishing Company, [c. 1938]. 640 pages, 4to. Cloth.

This volume is considerably different from usual student textbooks in arrangement, material, and style. The style notably indicates its origin from stenographic reports of Dr. Oertel's lectures. The material is scholarly presented in detail uncommonly found, particularly stressing pathologic physiology and embryologic development. The systems surveyed are restricted to circulatory, respiratory, renal and digestive. The text is not illustrated, and the bibliography is meagre. It is a definitely stimulating and thorough treatment of the subject. The material supplied in reviewing structure, development, and malformations of organs alone will make it a practical reference work for those interested in pathology. For the student, it is recommended as an exceptional adjunct text.

IRVING M. DERBY.

The Protozoa Popularized

BIG FLEAS HAVE LITTLE FLEAS OR WHO'S WHO AMONG THE PROTOZOA. By Robert Hegner. Baltimore, The Williams & Wilkins Company, [c. 1938]. 285 pages, illustrated. 4to. Cloth, \$3.00.

Slang and slapstick mixed with lucid similes reveal the mysteries of a flea-bitten world to the delighted reader. Microbes take on human characteristics as scientific facts are presented in a fresh conversational style. Mother Goose, Gulliver, and the G-men are mingled with scientific names in happy pur-

suit of Lilliputian universes. Besides entertainment, the book offers an accurate life history of the protozoa and their investigators. The text is further illuminated with humorous cartoons and cleverly worded verse.

THEODORE S. ROSEN.

Operative Treatment of High Blood Pressure

THE SURGICAL TREATMENT OF HYPERTENSION. By George Crile. Edited by Amy Rowland. Philadelphia, W. B. Saunders Company, [c. 1938]. 239 pages, illustrated. 8vo. Cloth, \$4.00.

This small book is a presentation by Dr. Crile of his concept of the genesis of essential hypertension. After long years of investigation he is convinced that this disease is due to a pathological physiology of sympathetic ganglia. The evidence for this opinion is presented in an interesting manner. In accordance with this concept of the genesis of the disease, a plan of surgical treatment has been developed, and is described in detail. The operation of bilateral celiac ganglionectomy and adrenal denervation is the recommended procedure, and the results are given in detail. There is also a review of work which has been done by others in the field of surgical treatment of hypertension, with comments upon the various procedures.

EDWARD P. DUNN.

Popular Physiology

MAN AND HIS BODY. By Howard W. Haggard. New York, Harper & Brothers, [c. 1938]. 594 pages, illustrated. 8vo. Cloth, \$4.00.

This is an interesting book written by one of the most popular lecturers at Yale. Dr. Haggard has compressed in his volume on physiology for the layman, the fundamental aspects of physiology and, in addition, the amplification of these facts to applied physiology in its broadest aspects. Neither the professional man nor the layman can fail to benefit by reading this book. It is definitely one of the finest of its type.

GEORGE B. RAY.

Another Volume of International Clinics

THE NEW INTERNATIONAL CLINICS. Original Contributions: Clinics; and Evaluated Reviews of Current Advances in the Medical Arts. Edited by George M. Piersol, M.D. Volume III, New Series One. Philadelphia, J. B. Lippincott Company, [c. 1938]. 341 pages, illustrated. 8vo. Cloth, \$3.00.

The latest issue of the *New International Clinics* has a number of articles

of wide interest. Russell Wilder reviews in some detail recent advances in adrenal insufficiency. George Shattuck connects some cases of Landry's Paralysis with Vitamin B deficiency. Creskoff and Fitz-Hugh summarize the attempts to standardize and assay liver extract. There is a very timely article on the danger of nasal medication (lipoid pneumonia) by Paul Cannon and Theodore E. Walsh. A good review of sulphanilamide is presented by four different men. Mosenthal, de la Chapelle and Frederic Hanes present interesting clinical cases in the latter part of the book, which is closed by a review of pyelitis in pregnancy written by Eastman.

ANDREW M. BABEY.

Psychotherapeutic Technique

PSYCHOTHERAPY. By Paul Schilder, M.D. New York, W. W. Norton & Company, Inc. 1938]. 344 pages. 8vo. Cloth, \$3.50.

To the initiated, Schilder's writings are thought-provoking. His ability to hot-shot ideas shows no indication of waning, although reprinting and repetition of formulae in disguise crop up in works of book size. This book is frankly a vehicle for collecting the tendencies of the past few papers and monographs into the semblance of a connecting unity not always apparent in any one of Schilder's productions. While the book may confuse with its seeming profusion of contradictory concepts and unusual approaches, it is full of deep insights and wisdom as well as cleverness.

To Schilder, psychotherapy means an understanding of the physical and psychological processes behind the patients' development, conduct, relationships, but the same also goes for the physician. He reiterates his published ideas on the relationships between organic and emotional states, the significance of physical disease as well as health in the actual life of people, and an investigation into what people actually conceive as health. His chapter on the technical tools of psychotherapy enables him to go into the details of psychotherapeutic methods with constant critiques from his own experience. He makes the discussion practical and open-minded. His analysis of the transference situation and the various psychotherapeutic systems gives him an opportunity to introduce some of his own changes in methods. The book illus-

trates a busy and productive psychiatrist at work. It will be hard work for most doctors to keep up, but they will enjoy it.

SAM PARKER.

English Experience with State Medical Care

HEALTH INSURANCE WITH MEDICAL CARE. The British Experience. By Douglass W. Orr, M.D. and Jean Walker Orr. New York, The Macmillan Company, [c. 1938]. 271 pages, 8vo. Cloth, \$2.50.

This book is very interesting and well written.

Disregarding any outside knowledge, and speaking from the book and its cover only, it would seem that its authors found conditions almost too Utopian. Practically all they could discover was favorable and almost impossibly so.

The National Health Insurance provides only care within the capacity of a general practitioner. Major conditions, hospitalization, x-ray, and pathology, other than this type of doctor would supply, are not covered by the plan. And it covers only employed people themselves and not their dependents.

If, as the authors indicate, this medical service is so much better than that provided before which would be gotten without it, how bad must medical conditions have been in England for the poor!

These young authors are a doctor, without experience in private practice, and a social worker sent by organizations actively favoring socialized medicine. Conceding perfect honesty of purpose and of fact, they saw what they looked for, and have done a good piece of work as advocates, if not too judiciously minded.

The book should be read by those interested either favorably or otherwise.

WALTER D. LUDLUM.

Preventive Aspects of Bacteriology

PRACTICAL MICROBIOLOGY AND PUBLIC HEALTH. For Students of Medicine. Public Health, and General Bacteriology. By William B. Sharp, M.D. St. Louis, The C. V. Mosby Company, [c. 1938]. 492 pages, illustrated. 8vo. Cloth, \$4.50.

In this book the procedures used in bacteriology are briefly and accurately presented. Public health problems are discussed from the practical point of view. The presentation of the subject is clear and precise. On the whole, it is a very useful composition on bacteriology and public health.

U. FRIEDEMANN.

British Hospital Nursing

A GENERAL TEXTBOOK OF NURSING. A Comprehensive Guide to the Final State Examinations. By Evelyn C. Pearce. New York. E. P. Dutton and Company, [c. 1938]. 888 pages, illustrated. 8vo. Cloth, \$3.75.

American readers who are interested in studying this book need to place themselves imaginatively into its British setting to appreciate its simple, direct, thorough and to many, unique exposition of the art of nursing. Here the patient is so sincerely and deeply entrenched in the heart and mind of the author as to reflect, without sentimentality, the priceless British tradition that the patient is the "Alpha and Omega, the beginning and the end" for which nursing exists. The book describes in its own terminology the British methods, all of which are sound and many of which are carried out in this country. The illustrations showing the set-up of equipment are outstandingly good. The real value of the book to American readers is as a reference. It is also most useful in making comparative studies of nursing procedures. As it is written purposely from the standpoint of hospital nursing, it gives little help to the nurse in adapting to the home situation. Nevertheless, the book contains good descriptions of various diseases and vivid notations on the patient's symptoms and reactions. This would be valuable under any circumstances.

HARMINA STOKES.

Poetry by the Pound

M: ONE THOUSAND AUTOBIOGRAPHICAL SONNETS. By Merrill Moore, M.D. New York, Harcourt, Brace and Company, [c. 1938]. 1000 pages. 8vo. Cloth, \$5.00.

Dr. Moore has selected a thousand sonnets from among his stock of 50,000 (!) and considerably warns us in his "Statement" not to read them at a sitting, consecutively, or even steadily. The reader is invited to dip and sample, to wander, and possibly to pause. We are not sure whether the author means to pause for a period or permanently.

The author is a Boston neuropsychiatrist in the thirties who teaches in the Harvard Medical School, does research work at the Boston City and Boston Psychopathic Hospitals, particularly on syphilis of the nervous system, and

swims semi-professionally, thinking nothing of a twelve-mile paddle from Charlestown to Boston Light. He is in successful private practice. Two boys and a filing cabinet—the latter holding the 50,000 sonnets—adorn his household.

Louis Untermeyer, a competent critic, seems to think that Dr. Moore's numerous (innumerable?) sonnets are an incomplete compensation for his failure to write the ideal sonnet (we agree that he has not done that). Some of them, Mr. Untermeyer says, are cloudy and obscure, and he hints that they may be incomprehensible even to the author. He insists, however, that every other sonnet is, at least, printable, and by no means regards the total collection as so much banal chaff.

John Crowe Ransom, another competent critic, says that the question of whether or not Moore's sonnets *are* sonnets is perfectly arbitrary, a matter of definition.

Mr. Untermeyer regards these sonnets as "American" in their pioneering quality (bold, flexible variations of the traditional, well-regulated sonnet form) and because of their gusto, naïve egotism, excesses of awe and flippancy, eagerness "to match with Destiny for beers," etc.

But they are American for another reason. Dr. Moore has established the first veritable poetry factory for quantity production output. One can easily perceive in the framework of his product something akin to the chassis of the famous model T. Dr. Moore's sonnets come along the assembly line in an endless procession.

Perhaps Dr. Moore's work is ominous of future American competitive technic—which may become an impressive phenomenon but hardly a glittering or golden one. The thought oppresses one a bit. But for this thought we hasten to express a complementary one. May it not be that this nearly incredible diversion of energy has saved us—thus far—from 50,000 case reports of syphilis of the nervous system?

As illustrating some of the curiosities in this work we cite the sonnet without syntax on page 709, the sonnet in code (with no key) on page 710, and the sonnet without words (words indicated by dots) on page 781. These are extreme

examples included by the author to prove how flexible the sonnet is in his hands. To our mind, they prove more than this.

There is a line on page 177 of this book—Dr. Moore's own—which has made us ponder:

Rarely a sonnet deserves to be exhibited.

ARTHUR C. JACOBSON.

Factory Hygiene Practically Considered

INDUSTRIAL HYGIENE. A Handbook of Hygiene and Toxicology for Engineers and Plant Managers. By Laurence B. Chenoweth, M.D. and Willard Machle, M.D. New York, F. S. Crofts & Company, [c. 1938]. 235 pages, illustrated. 8vo. Cloth, \$2.00.

To confine the subject matter of the many divisions comprising the science of industrial hygiene within the pages of a small book is a large undertaking.

In this book, the authors attempt to discuss not only industrial hygiene but also workmen's compensation and first aid treatment. The book contains fifteen chapters under which are discussed historical introduction, workmen's compensation, industrial accidents, diseases incident to occupation, industrial poisoning, industrial medicine, health service in industry, first aid treatment and some preventive measures.

The book is written from the viewpoint of the physician, and treats mostly of the medical aspects of industrial life. Engineers and plant managers are interested in all the hazards concerned with the incidence of industrial accidents or diseases, and desire to know the specific cause, as well as the practical pre-

ventive measures to be applied. From the engineering viewpoint the authors do not seem to have fully considered this matter.

In considering dust, fumes, gases and vapors, some knowledge of physiology is necessary for proper comprehension, and could have been included in the book.

The book has been written in an interesting manner, and contains a fund of information with a well arranged index, but it cannot be considered as a textbook for engineering students or students of industrial hygiene. It is of value to the physician interested in industrial medicine.

CHARLES T. GRAHAM-ROGERS.

A New Anatomical Text

APPLIED ANATOMY. FUNCTIONAL AND TOPOGRAPHICAL. By Robert H. Miller, M.D. Philadelphia, Lea & Febiger, [c. 1938]. 484 pages, illustrated. 8vo. Cloth, \$6.50.

This is a textbook making an enlightening application of the facts of anatomy to the problems of the human body. With masterful ability at correlation, the author demonstrates how logically structure determines function. Just as easily he leads the reader back along the path of perverted function to the anatomic structures of necessity affected. Anatomy is graphically shown to take a living part both in health and disease.

This work displays a gift at integrating facts which decidedly facilitates the comprehension of the student.

CARLETON CAMPBELL.

BOOKS RECEIVED *for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.*

OUTLINE OF PSYCHIATRIC CASE-STUDY. A Practical Handbook. By Paul W. Preu, M.D. New York, Paul B. Hoeber, Inc., [c. 1939]. 140 pages. 12mo. Cloth, \$1.85.

THE DOCTOR PRESCRIBES MUSIC. The Influence of Music on Health and Personality. By Edward Podolsky, M.D. New York, Frederick A. Stokes Company, [c. 1939]. 134 pages. 12mo. Cloth, \$1.50.

THE MEDICAL PRESS AND CIRCULAR, 1839-1939. A Hundred Years in Life of a Medical Journal. By Robert J. Rowlette, M.D. London, "Medical Press & Circular", [c. 1939]. 127 pages. 4to. Cloth.

A SHORT ENCYCLOPAEDIA FOR NURSES. By Evelyn C. Pearce. New York, E. P. Dutton and Company, [c. 1939]. 686 pages. 8vo. Cloth, \$3.50.

DRASTISCHE HAUTREIZBEHANDLUNG HEILWEGE BEI INNEREN ERKRANKUNGEN. By Dr. Walter Ruhmann. Leipzig, Verlag von Krüger & Company, [c. 1938]. 115 pages, illustrated. 8vo. Paper, RM. 4.80.

TEXTBOOK OF NEURO-ANATOMY AND THE SENSE ORGANS. By O. Larsell, Ph.D. New York, D. Appleton-Century Company, [c. 1939]. 343 pages, illustrated. 8vo. Cloth, \$6.00.

ELEMENTARY ANATOMY AND PHYSIOLOGY. By James Whillis, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 342 pages, illustrated. 8vo. Cloth, \$3.50.

OH, DOCTOR! MY FEET! By Dudley J. Morton, M.D. New York, D. Appleton-Century Company, [c. 1939]. 116 pages, illustrated. 12mo. Cloth, \$1.50.

HEALTH AT FIFTY. Edited by William H. Robey. Cambridge, Harvard University Press, [c. 1939]. 299 pages. 8vo. Cloth, \$3.00.

A SYNOPSIS OF MEDICINE. By H. Letheby Tidy, M.D. Seventh edition. Baltimore, William Wood & Company, [c. 1939]. 1187 pages. 12mo. Cloth, \$6.00.

THE CONTROL OF THE CIRCULATION OF THE BLOOD. By R. J. S. McDowall, M.D. New York, Longmans, Green and Co., [c. 1938]. 619 pages, illustrated. 4to. Cloth, \$22.50.

CHEMIE UND PHYSIOLOGIE DES EISEISES. By Dr. R. Otto, Dr. K. Felix and Dr. F. Laibach. Leipzig, Verlag von Theodor Stein-

kopff, [c. 1938]. 203 pages. 8vo. Paper, RM. 6.75.

SYMPTOMS AND SIGNS IN CLINICAL MEDICINE. An Introduction to Medical Diagnosis. By E. Noble Chamberlain, M.D. Second edition. Baltimore, William Wood & Company, [c. 1938]. 435 pages, illustrated. 8vo. Cloth, \$8.00.

WHITLA'S DICTIONARY OF TREATMENT. Including Medical and Surgical Therapeutics. Eighth edition by R. S. Allison, M.D. and C. A. Calvert, M.B. Baltimore, William Wood & Company, [c. 1939]. 1285 pages. 8vo. Cloth, \$9.00.

You may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the MEDICAL TIMES, 95 Nassau Street, New York, N. Y.



CANCER

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EDITORIALS

More About The Doctor's Income Tax

LAST month we proposed that the doctor be permitted a deduction when computing his income tax, in place of direct state and federal payment for the care of the indigent in hospitals, clinics and elsewhere. The argument ran that this gift of medical care represented a real loss from a strictly economic point of view—a loss not suffered by other men. It is as much of a loss, realistically speaking, as one from business, fire, storm, shipwreck, theft or bad debts; or from contributions for exclusively public purposes. Nobody has ever insisted that such services are worthless; indeed, we have seen them rated in many millions in most states of the Union.

It would be enough if the Government were to recognize the soundness of the principle involved by granting, as in the case of contributions, the right to deduct an amount not exceeding fifteen per cent of one's net income. The doctor, in turn, would accept the burden of proof if challenged on the facts affirmed by him in his report to be true. A man on the staff of a clinic or hospital would be automatically entitled to the full fifteen per cent deduction.

Unless some such recognition is accorded the doctor's services to the indigent, it is becoming increasingly obvious that direct payments, larger by far, and on bureaucratic and socialized bases, are inevitable.

Why not the democratic way?

MEDICAL TIMES, MAY, 1939



ESTABLISHED
IN 1872

The Abortive Attempt To Amend the Education Law

SLOWLY the self-corrective measures of organized medicine and the Education and Penal Laws come into alignment. Despite the low moral tone of the community at large—a tone reflected to some

degree by both the medical and legal professions and our legislative bodies as well—progress is notable.

Thus prosecutions for criminal abortion promise greater success, because of high court decisions declaring that agreement to commit the crime is tantamount in the eyes of the law to such commission itself.

Alleged faults in recently defeated legislation seeking to amend the New York Education Law and expand the powers of the State Medical Grievance Committee in order to deal effectively with *any kind of unprofessional conduct* are in process of discussion. The forty per cent (!) of registered physicians who are not members of medical societies representing organized medicine present a special disciplinary problem.

We have the ironic fact to consider that the phrase "any kind of unprofessional conduct" aroused such opposition, even in certain official quarters of organized medicine itself, that the Legislature was given pause. The bill's support by such divisions of organized medicine was conditioned upon softening its provisions so as not to go beyond the state and national codes of our medical societies.

The fear of abuses is understandable, for even under the present lenient laws strange things have happened. Therefore the argument runs that with drastic laws corrupt officials would have a mighty club wherewith to blackmail accused persons.

On the other hand, there is rising oppressively in one corner of the state the stench of an abortion racket that makes the Augean stables smell like violets. The special prosecutor estimates that this situation involves about 100,000 crimes per annum in one community alone. How can a shady group that figures in every other phase of unprofessional conduct be reached by other than drastic laws? Here the gods of fate would seem to decree a sterner and juster régime of law.

Of course, in just so far as the pagan considerations now so rampant tend to mould and characterize our social order will all efforts toward professional decency encounter stiff barriers and tend to fail.

Our Industrial Paralytics

ACCORDING to Dr. Virgil Jordan, president of the National Conference Board, there has been a retardation of investment in productive enterprise of about \$100,000,000,000 during the last ten years.

We suspect that there are medical as well as social, economic and political reasons for the lag in recovery. There is not only an unhealthy lack of new industrial frontiers to storm and conquer productively; there is also an unhealthy psychology toward business achievement anyway. What we mean is that the modern business man is a "victim" more or less of the "subversive" health ideas that have been sold to him by propagandists and fellow commercialists. He distrusts his physical and mental powers too much. He lacks "intestinal fortitude" when compared with the tough gentry of the earlier American era of expansion and achievement. The older crowd did not think about their fortitude, staying powers, and ability to shoulder responsibility and to face danger and battle; their powers were positive, without weakening inhibitions and negations. They did not need sunlamps and capsuled vitamins and electrocardiographs; they did not have to

run off to the Bahamas after every market deal; they would never have been paralyzed by the discovery of a trace of albumin or a rise of twenty points in blood pressure; a touch of neuritis would never have been permitted to ruin railroad raids and send them off to the hot springs of the West; their stresses and strains would never have ended up with an ulcer syndrome and a stay at the Mayo Clinic. In those days, in the heretical language of Chesterton, health had not degenerated into hygiene.

Can Jim Hill, Jay Gould and Commodore Vanderbilt, by any wild stretch of the imagination, be pictured submitting to psychoanalysis in any circumstances? Were Benton and Frémont (Oregon Trail) ever troubled by any neurotic qualms?

The business men of today tend to be saps and softies and phonies, taking refuge for their inanities and impotencies behind political and other smokescreens. They are not up to the task of being Americans.

Even if there were challenging new frontiers, it is very doubtful whether many of these industrial paralytics could take advantage of them.

Undue concern about health, a recently imported (?) ism, is probably doing as much damage to the capitalist order as the devils of Bolshevism ever could.

The modern industrialist is no hero to his doctor.

Social Schizophrenia

HUMAN nature is known by its inevitable emotional conflicts and cleavages. There are certain clashing social set-ups peculiarly to its liking; examples are the high-hat gesture known as Prohibition, with complementary drinking habits on the part of the same prohibitors; the advocacy and building up of armaments (10,000,000 more men under arms than at the end of the World War) by people who simultaneously proclaim their peace ideals; the love of crime stories by law and order partisans; the abstract respect paid to justice and its symbols at the same time that an unconscionable and anti-Christian profit and usury system breeds underworld crooks; the "democracy" preached by the

European and South American dictators, themselves apostles of totalitarian states; the trusteeship and directorship of institutions fighting disease on the part of many who are themselves directly responsible for bad housing and industrial exploitation; the birth control and legalized abortion ballyhoo by executives and propagandists with relatively large families; the lip worship of the Constitution by publicists who work overtime undermining it; the deadly mutual hatred of Pickwickian politicians on the stump and the private friendship of the same gentry; the highly ethical concepts held by some military conquerors toward vanquished peoples; the nostalgic attitude toward the general practitioner by doctors who have done their best collectively to destroy him; the religious zeal of communists, comparable in intensity with that of the early Christians, and their bitter denunciations of spiritual things; the "relentless hostility to things of the mind" characteristic of our universities (see Henry Seidel Canby's *Alma Mater*); the fervid puritanic preaching of clergymen who are themselves the very embodiment of the erotic feminine ideal; the opposition to lotteries by gentlemen of the cloth who run "draws" in their churches.

So the music goes around and around. We behave more and more naturally. Meanwhile people with no sense of humor declare that another great war will destroy what they call "civilization."

Paranoia Is Not Enough

NO more mystical than the theory of paranoia, and just as plausible, by way of accounting for one European Dictator, is the thought which an imagina-

tive medical writer has offered.

There is a grim, ironic logic, he thinks, in the course of events in Europe. The Dictator in question symbolizes the corpse of his country's Unknown Soldier, returned to visit dreadful penalties upon both the society of his homeland and upon the world at large—the society which unnecessarily betrayed him and many of his young kind everywhere into the horrors of war and into the grave, and which consigned all survivors to a thoroughly demoralized post-war social order.

What is it about this figurative corpse that so shocks and outrages the world? It is the fact that he is antithetic in all respects to a rational culture and civilization. It is as though the gods had planned from the beginning a completely ironic dénouement, selecting for primary interment and later resurrection, of course, an uncouth, illiterate, humorless, unmoral and psychopathic soldier. Everything is as it should be. This sardonic plague of the gods of retribution is not even blond or dolichocephalic; under his fetid touch religion, freedom, science and the literate arts wilt; eugenic ukases issue from the putrid mouth of a man whose own family background evokes a shudder.

This Dictator is the proof of a universe of moral relativity. Has not society richly merited such a scourge? Why not such a Dictator? Why not the lesson?

There is an admitted mysticism about this particular Dictator. He might well be in truth the resurrected cadaver of the Unknown Soldier; an emissary of gods who have not yet given up hope for man.



SYMPTOMS OF HEPATIC INSUFFICIENCY

THE significance of the early symptoms of hepatic insufficiency is too little recognized by the medical profession, though it is well understood by many of the laity, who rightly ascribe them to biliousness or liverishness. The patient is irritable and depressed and complains of a feeling of general unfitness and headache, which are most marked in the morning and may pass off with exercise later in the day. Nausea and anorexia, especially in the morning, and drowsiness after meals are common symptoms.

Arthur Hursh, M.D., in *Practitioner*, June, 1938

AN APPROACH TO THE DIAGNOSIS OF

Acute Abdominal Disease

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WHEN we think of the great number of pathological conditions which may be found in the abdomen, and which cause acute disturbance, or which without any abdominal focus may yet cause acute symptoms referred to the abdomen, it seems absurd to attempt even an introduction to the subject of abdominal diagnosis in a paper suitable to this occasion and yet not too severe on your powers of endurance.

However, when one of us is suddenly confronted with a so-called acute abdomen he must hurriedly review in his mind all possible solutions, and then by rapid elimination reach a residuum from which he can recover a sufficiently accurate diagnosis to determine what he hopes will prove the proper method of handling.

THIS is not an effort to simplify abdominal diagnosis in acute emergencies, but rather to enumerate some of the difficulties I have encountered, and some of the mistakes I have made. I may add that I know of no special maneuver in physical examination, no specific or pathognomic symptom or sign, and no short cut of any nature which has any diagnostic importance beyond what we are all familiar with. My effort will be to pass in brief review the line of thought and of investigation I pursue. It will necessarily be hurried and superficial.

For fear that some of my statements

may sound as if approving of the procedure, I had best state now that I have an instinctive and pronounced objection to frankly exploratory surgery, though I recognize the justice of the statement made many years ago by Sir Frederick Treves that "every abdominal incision is ultimately diagnostic." However great our objection to exploration, as a raw proposition, to approach abdominal symptoms from the standpoint that absolute accuracy in preoperative diagnosis is possible, even in the most experienced hands, or that it is of prime importance in many cases, is to substitute the visionary (some might prefer to say the ideal) for the practical. The patient's interest can often be best served by recognizing the limits of our diagnostic powers, and by basing our advice as to treatment on what we know that we don't know. Our attitude toward acute appendicitis, for instance, must be determined, in a case where complications have not set in, by the fact that no one can tell whether the patient will be practically well or anywhere from there to completely hopeless in 24 hours; in fact we have all seen 12 hours or less sufficient for startling changes.

WHILE the specific location of a focus or its present or future seriousness can not be accurately determined in many instances, this does not justify a surgeon in merely making a diagnosis of acute surgical abdomen, though this might be entirely proper in the case of the family physician, who does not have to improvise operative procedures to suit pathology

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as it is unexpectedly encountered. The family physician may well feel that he has done his full duty in determining promptly that the case is surgical in its general aspects. On the other hand, since inside information is difficult to obtain, and especially in the presence of peritonitis, without seriously injurious traumatism, it is essential for a surgeon to know definitely the general direction in which he is going before he opens the abdomen. There is no flood light beneath any abdominal incision, and to avoid reliance on the untrustworthy maneuver of "going in to see" the surgeon should force himself to a careful decision and positive statement as to what he expects to find. His preferential diagnosis stated, he should of course think through all alternative diagnoses and be mentally prepared to cope with them. No small part of his responsibility is to so locate his parietal incision as to give access to all possible pathology with least damage to the belly wall, and to avoid the necessity of a second incision. My objection to the McBurney incision, for instance, is that it demands too much accuracy in diagnosis. The man who uses it needs greater skill and greater luck than I can count on. A peculiar angle to abdominal diagnosis is that the responsibility for fatal delay in diagnosis and stubborn resistance to surgery has not even yet been given proper weight. Personally, I feel greater responsibility in advising against operation in questionable cases than I do when advising it. Particularly is it not fair that the objector to surgery should be required to make a definite diagnosis and not be allowed to merely veto that of the surgeon? While new or hitherto unrecognized pathological conditions in the abdomen (regional ileitis—perforating ulcer of Meckel's diverticulum, etc.) are brought to light occasionally, and new theories and less frequently new facts about blood dyscrasias, vitamin deficiencies, and disorders of the internal secretions and of the autonomic nervous system keep many of us in a constant state of jitters for fear we may be caught lagging behind the procession, we should not be too prone to think that because a case is not typical of any of our old standbys it must necessarily belong to the unknown and mysterious or prove

to be some entity recently discovered without our knowledge.

IT may seem superfluous at this late date to suggest that the urine (second beaker for men, catheterized for women) should always be examined chemically and microscopically, white and red blood cells counted and differentiated, haemoglobin estimated, coagulation time and bleeding time proved, and blood pressure taken before any one is asked to make a final diagnosis in a serious abdominal case with surgical possibilities. However, outside of hospitals, these things are seldom done, even though the patient may have been under observation several days, and in some hospitals of good reputation it is difficult to get them attended to carefully and promptly. Yet the simple white cell count or more often routine urinalysis may be the determining factor in diagnosis. In this connection a leukopenia when present is more significant than leukocytosis.

To the surgeon the actual value of doing more than merely listening to the heart for adventitious sounds and locating the apex beat will depend on whether or not he has a knowledge of heart lesions which few of his fellows possess. In this connection some of you possibly have had the misfortune (as I have had) to make the mistake of thinking that the abdominal pain of angina was caused by a hernia or some other evident pathology. When I suspect the heart I ask for help.

While a good doctor and competent radiographer are very comforting associates in cases suspected of pneumonia, the temperature and respiratory rate (one or both) have always been very significant in cases I have seen of pneumonia with severe abdominal pain. I do not attach the usually accepted importance to a high leukocyte count as pointing to pneumonia, for I have seen many cases of appendicitis with leukocyte count up to 35 or 40,000.

SOME other confusing conditions not intra-abdominal may be mentioned.

A few cases of acute leukemia have come to me with a diagnosis of acute abdomen. Fever, only moderate leukocytosis (sometimes present), and severe abdominal pain are very deceptive, but

the cases of leukemia I have seen have had severe pains in the extremities and other evidences besides the differential white count. A history of bruising easily and the presences of ecchymoses should always excite suspicion of a complicating blood dyscrasia no matter how plain the evidence of actual abdominal pathology.

Few cases of *Henoch's purpura* seem to escape operation. In children the difficulty of getting a clear cut history and a proper interpretation of physical signs adds to the problem. An increase of eosinophiles to 4 per cent, which occurs in some cases, is considered diagnostic. In the absence of eosinophilia in any abdominal case associated with *shifting* pain we should carefully investigate for a history of joint pains, asthma, urticaria, and other evidences of allergy.

Migraine and *herpes zoster* should be kept in mind in anomalous cases.

ONE'S first case of *black widow spider bite* is very confusing if the patient has no knowledge of having been bitten, but the prompt development of board-like general abdominal rigidity without shock, and without any previous abdominal history, seems to have been fairly protective against surgery. I have not heard of a case being operated on.

Epididymitis is at times associated with severe abdominal distention and pain (mild so-called paralytic ileus) and can be very suggestive of intestinal obstruction. The presence of epididymitis and a knowledge that it can cause such symptoms are sufficient to avoid error.

Rheumatism, if that general term is allowable, can produce peritoneal irritation which closely simulates peritonitis of intra-abdominal origin, and in the absence of joint symptoms, which may be slow about developing, can prove to be very confusing.

The *gastric crises of locomotor ataxia* have in the past led to much unnecessary surgery but not usually of the emergency type.

Fortunately, of recent years we seldom have to deal with *typhoid* or *paratyphoid* fever, for sometimes in the early stages the leukocyte count is about the only point of differentiation from appendicitis, and in paratyphoid we may have light leucocytosis.

So-called *old fashioned bellyache* looms large as an impulsive explanation of abdominal pain. If vomiting does not promptly relieve all symptoms, or diarrhea does not promptly develop, we had best drop this diagnosis and look for more serious trouble.

Since we have mentioned *diarrhea*, while constipation is the natural accompaniment of the great majority of acute surgical diseases of the abdomen, we may well impress on our consciousness that the presence of diarrhea does not exclude any of them, and, strange inconsistency, bloody diarrhea is a constant feature of one cause of actual complete intestinal obstruction (intussusception). Since diarrhea increases the virulence of intestinal bacteria, we may expect infections associated with diarrhea to carry increased surgical risk. Particularly is this true where there is an associated perforation or where resection of the bowel is necessary.

WHILE we should always keep before us the possibility that acute abdominal inflammation may prove to be due to the tubercle bacillus, fortunately a mistake in recognizing the tuberculous nature of the trouble seldom leads to any serious results. Even when the primary focus cannot be removed the mere opening up of the peritoneal cavity often gets astonishingly good results. Not only peritoneal but even visceral tuberculosis may completely disappear.

While bladder symptoms may be caused by anything from fright to sexual excitement, it is also true that renal calculus may cause intense *epigastric* pain and shock without any disturbance of bladder function and without naked-eye blood in the urine. Again, since renal calculus sometimes causes symptoms and local signs absolutely typical of appendicitis, and since appendicitis may cause a definite amount of microscopic blood in the urine, it may take both x-ray and cystoscopy to help clear up some situations. A blocked ureter with normal bladder urine may cause an entirely excusable error, but such a happening is rare indeed.

SO far, with laboratory help, we have had fairly easy sailing, but now we approach a mass of real abdominal path-

ology which no laboratory can simplify for us through examination of the blood or urine, or radiography throw light upon.

If we merely *enumerate* those conditions we have all probably seen we realize that separate discussion of appendicitis (the biggest half of the acute abdomen), perforating ulcer, cholecystitis, diverticulitis, regional ileitis, the various causes of acute intestinal obstruction, mesenteric infarct, spontaneous rupture of the spleen, acute gangrenous pancreatitis, tumors with twisted pedicles, torsion of the omentum, pus tubes, tubal or other ectopic pregnancy, leaking chocolate cysts, ruptured blood vessels in hypertension or aneurysm, etc.—just enumeration makes us realize that separate discussion is out of the question. A few generalizations may be permitted.

Profound shock in the absence of severe external traumatism (gunshot or stab wounds, "run over" accidents, etc.) should turn one's mind to (1) ectopic pregnancy, (2) mesenteric infarct, (3) acute gangrenous pancreatitis, or (4) spontaneous rupture of the spleen or some large blood vessel from hypertension or aneurysm.

Ruptured or aborted tubal pregnancy is seldom overlooked any more. Rupture of the spleen, without violence, seldom occurs except in typhoid or in a type of malaria never seen in this section. The presence of an aneurysm is usually known before rupture and is promptly fatal. The latter is true of rupture of any large vessel from any cause. That leaves pancreatitis and infarct, which are common enough to be given due consideration and rare enough to be overlooked quite often.

MOYNIHAN said of acute hemorrhagic pancreatitis that no other catastrophe within the abdomen produced at once such unendurable agony and such profound shock. The significant slate-blue areas said to be present over the upper abdomen in severe cases of this condition and the distended epigastrium and flat hypogastrium should make us overlook few cases, if indeed these evidences are needed in addition to shock and pain. Mesenteric infarct when it involves a large area of the mesentery

produces equally profound shock but the pain is less severe, and I saw one case in which the patient made practically no complaint.

The symptoms of acute perforation of a hollow viscus with characteristic, promptly developed and general board-like rigidity are much the same no matter what the organ involved. Of course, duodenal perforation is first to be thought of, and then the perforation of gastric ulcer, but sudden (Judd reported "mysterious") perforation of the gall-bladder does occur, and possibly perforation of peptic ulcer in Meckel's diverticulum should be kept in mind. Here the matter of practical importance is to know where to look for the perforation when it is not found in the duodenum. Any of these perforations can closely simulate violently acute appendicitis, and here again a mistake in diagnosis is of more importance to the surgeon's vanity than to the patient if the surgery is properly handled.

So far as recognition of obstruction of the lumen of the bowel is concerned the most important fact to keep in mind is the paroxysmal nature of peristaltic pain (or the peristaltic nature of paroxysmal pain). Pain may be continuous in obstruction but that part caused by peristalsis is definitely intermittent. It is useless to look or feel for "cat backs" or "patterns" in primarily acute obstruction. Visible and palpable contracting coils of intestine are not present until hypertrophy of the intestinal muscle has had time to develop, and this comes from partial obstruction. No matter how acute the other symptoms may be, visible and palpable coils may be known as pointing to incomplete or chronic obstruction of some days' duration, and never as coming from a sudden strangulating process. Since strangulation seldom supervenes on chronic obstruction, visible or palpable coils are not only of great diagnostic value as to the type of obstruction but offer encouragement as to prognosis.

DIVERTICULITIS occurs with increasing frequency in my experience as the volume of my work grows smaller. When the diagnosis in an acute stage simmers down to a choice between diverticulitis and appendicitis with the appendix lo-

cated in the pelvis, I have found the barium enema and x-ray most helpful. Even in the early stages of diverticulitis, before there is any marked obstruction to the lumen of the colon, there is apt to be a definite filling defect under the fluoroscope and in the radiograph. Of course, the presence of uninvolved diverticula, and proof that the cecum is not in the pelvis, are additional help. In diverticulitis on the right side (something I have never seen), it is more difficult to exclude the appendix.

My favorite error is to mistake a leaking chocolate cyst for appendicitis, and I have had to do more than one hysterectomy through a Battle-Kammerer incision. My experience has been to find chocolate cysts in women with the cervix uteri at the end of a narrow vagina, making it impossible to insert a finger behind the cervix, and rectal examination is equally unsatisfactory. This situation, combined with a rigid belly wall, makes the securing of pelvic information so impossible that these findings now mean that I make a median incision.

Mistaking an acute gallbladder in a young person for appendicitis is not a serious error. Operation in the acute stage of such cases is entirely defensible. In older people with possible common duct complications the situation is different, but here a mistake in diagnosis is seldom made.

IN diagnosis of the acute abdomen it is usually a question of appendicitis against the field. As we all know, appendicitis is the most common surgical lesion of the abdomen, and is the cause of the greatest number of deaths for which the medical profession is directly responsible. I do not mean by this that we are responsible for the majority of

deaths due to appendicitis, but we are through delay (not from purgation) directly responsible for more deaths in this disease than in any other. Of course, surgical errors in handling cases make their contribution, but the inexperienced or awkward surgeon has a better chance of getting by with early cases, for perforation and gangrene test the highest skill. Probably because the appendix is so small appendicitis is the most frequently atypical of all diseases. It may occur without nausea (more frequently without vomiting), without fever, without increased pulse rate, without leukocytosis, without localized soreness or muscular rigidity, and even without spontaneous pain, but I do not believe it causes death without some of these evidences being present and giving sufficiently marked evidence (and sufficiently early) for a diagnosis to be made in time for successful surgery.

It seems to me that if we can dispossess ourselves of a passion for insisting on uniformity in manifestations and become less wedded to accuracy in diagnosis and less obsessed by the mysterious we will overlook few cases of deadly appendicitis, and so avoid that mistake in diagnosis which I feel is the one which should cause us most embarrassment, as it is truly a reflection on our judgment and sense of proportion. Frank infective appendicitis is seldom looked for and not found unless we find something just as urgently surgical or even more so. If this is so, delay is more reprehensible than a mistake in diagnosis.

If I may be pardoned a sophomoric mythological allusion in closing, in the acute abdomen it is just as essential to avoid the Scylla of dilatory perfection in diagnosis as it is to avoid the Charybdis of raw exploratory surgery.

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THE LIVER

ONE of the many important functions of the liver is to destroy or render inert the toxins which are brought to it by the hepatic artery and from the stomach, intestines, and spleen by the portal vein. When the dose of toxin is excessive or when as a result of constitutional weakness or past disease the liver is abnormally vulnerable and its detoxicating functions are deficient, the hepatic cells are likely to become damaged.

Arthur Hursh, M.D., In *Practitioner*, June, 1938

Postoperative

CATHETERIZATION

THE proper way to handle the urinary bladder during the first few postoperative days is a problem which has vexed many surgeons. In its solution two divergent schools have developed; the first believing that catheterization is always interdicted and the second believing that frequent catheterization is harmless.

If the first method is followed religiously, that is, if the patient is never catheterized, it will be found an effective way of preventing postoperative urinary infection. Now, I believe that these patients will eventually void unless they have some obstructive or neurogenic bladder lesion, but the sufferings they go through before voiding have always seemed to me to constitute a form of cruel and unusual punishment.

Urologists have well established the fact that the normal bladder is practically immune to infection and can therefore be treated with great disrespect. This fact is violently untrue of the diseased bladder, however, and therefore it must be handled with utmost care.

WE will consider first the situation when the bladder is normal. This occurs after any operation where the bladder, its circulation or nerve supply was undamaged. The only problem here is to keep the bladder normal, which means to keep it from becoming overdistended; for a bladder which has been overdistended is no longer normal. Normal bladder capacity is about 300 cc. and the surgeon should attempt to prevent distention beyond this. Usually it is immediately postoperative that the damage is done. The patient may be still semi-anesthetized and is probably well sedated, therefore sensations from

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the bladder are not experienced until the organ is quite overdistended, at which point micturition may be difficult. Since the surgeon may not have left orders to cover this emergency, the hospital staff try various palliative measures, turpentine fumes, mercurchrome on the meatus, streams of warm water, sitting the patient on the edge of the bed, etc., which, it is true, sometimes bring the desired results. If not, the patient is finally catheterized, by which time the bladder is badly overdistended. Now, a considerable percentage of patients so handled will develop urinary infection which may be very severe, and which may cause trouble for many years. I cannot be too emphatic on this point, for it is from this misuse of the catheter that postoperative catheterization has developed such an unsavory reputation.

To prevent this, the surgeon must judge from the length and severity of the operation, the amount of blood lost, the general hydration of the patient, the temperature and humidity, and the amount and kind of postoperative fluids, at what hour distention of the bladder will occur, and must leave orders that unless the patient voids before then he must be catheterized. There is no harm and, in fact, there is benefit, in the installation of a mild irritant such as an ounce of five per cent argyrol before the catheter is withdrawn. This will aid in giving sensation before the bladder becomes overdistended, which will help induce urination. The house staff and nurses must be persuaded that prevention of overdistention will lead in the end to fewer catheterizations.

THE abnormal bladder requires drainage, usually through a urethral catheter. For an indwelling catheter I prefer the type with an inflatable cuff, as they require no adhesive strapping in men and are painlessly inserted and removed in women.

It requires nice judgment on the part of the surgeon sometimes as to whether to drain the bladder or not. I believe in case of doubt, an indwelling catheter is best inserted. This catheter should be connected by sterile tubing to a sterile covered bottle and rigid aseptic technic practiced in its care. If the bladder abnormality is due to infection or to atony better results will be obtained if a tidal drainage apparatus, wherein the bladder is automatically filled to a predetermined pressure and then emptied, is used than if the bladder is drained only by an indwelling catheter.

Opinions differ on how the normal bladder which has been allowed to become overdistended should be treated. I believe that the first offense should receive no special treatment. If this happens a second time, an indwelling catheter should be inserted for forty-eight hours. If infection develops specific treatment of the offending organism is indicated, and if the infection is complicated by atony, again tidal drainage should be instituted. If it is necessary to catheterize the patient more than four times daily I believe that an indwelling catheter is indicated for twenty-four to forty-eight hours.

THE catheterization of male patients and the care of indwelling catheters does not seem to me to be necessarily a function of the house staff. The interne has more important tasks which may make him unavailable at the time when the catheterization should be done. The care of indwelling catheters requires asepsis which is time-consuming without special equipment.

Having worked in hospitals both with and without a catheter service I know that there is no question as to its value. It will be found that the catheterizations are more carefully and cleanly done and there is no comparison in the care given indwelling catheters. This is because each trained orderly has a cart on which he carries the necessary sterile supplies, making it easy for him to do his work well.

By making a small charge for each service it will be found that the hospital gains financially as well as in giving improved service to its patients.

WE conclude, then, that the normal bladder is best handled postoperatively by early catheterization if normal voiding does not occur. The abnormal bladder is best treated by an indwelling catheter, combined in special cases with tidal irrigation.

The insertion and care of catheters is more expediently done by trained orderlies than by the regular house staff.
810 REPUBLIC BUILDING.



A THEORY OF SHOCK

A RATIONAL "unified theory" of shock can be developed from the information that we now have. We may first assume several causes for the reduction of the blood volume; the important one in traumatic shock is probably local fluid loss, but other causes may be effective in this or other types of shock. The reduced blood volume results in diminished capillary flow, capillary damage, and finally, increased capillary permeability. Vaso-constriction from sympathico-adrenal activity may be contributory, and a pre-existing diminished circulation (as in the arteriosclerotic patient) also comes into play. Concurrent infections or disease may act by additional capillary damage. From this stage the blood volume is further reduced by capillary transudation, and death may ensue by peripheral circulatory failure.

N. W. Roome, M.D., in *Anesthesia and Analgesia*, July-August, 1938

Causalgia

A CAUSE OF BACKACHE

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and

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THE immense volume of literature, written on the subject of low back pain, bears mute proof of the truth of a statement once made by G. G. Davis that "our knowledge of the anatomical lesions causing backache is so limited, that any attempted explanation of cause and effect must be largely theoretical, even though we do our best to make it rational." Much has been written contributing new knowledge of the sacroiliac joints, the lumbosacral articulation, the intervertebral discs, the anomalies of the facets of the lumbar vertebrae, the nucleus pulposus, and the pathological conditions affecting the cauda equina. Some form of open operation has been successfully used in all these conditions. Little attention has been paid to myofascitis and its treatment through operative measures. From time to time there have appeared articles on subcostal neuritis and intercostal neuralgia of the abdominal wall as a cause of low back pain.

We all have had patients with a pelvic tilt and back pain whom we have treated empirically by raising the heel on the side of the low crest with relief of symptoms. Many publications mention some of the points found in this condition, but in none are they all correlated together with the deduction that we will advance.

Anatomy of the Low Back

THE lumbodorsal fascia is a deep investing membrane which covers the deep muscles of the back of the trunk

and continues upward on the back of the neck. In the thoracic region the lumbodorsal fascia is a thin fibrous lamina which binds down the extensor muscles of the vertebral column and is attached to the spinous processes of the thoracic vertebrae and angles of the ribs. In the lumbar region the fascia consists of a posterior layer attached to the spinous processes of the lumbar and sacral vertebrae and to the supraspinal ligament; and an anterior layer attached to the tips of the transverse processes of the lumbar vertebrae and to the intertransverse ligaments, to the iliolumbar ligament, and to the lumbocostal ligament. The layers unite at the margin of the sacrospinalis to form the tendon of origin of the transversus abdominis, latissimus dorsi and serratus posterior inferior.

THE sacrospinalis group lies in a groove on the side of the vertebral column, arising from the medial crest of the sacrum, spinous processes of the lumbar and eleventh and twelfth thoracic vertebrae, supraspinal ligament, back part of the inner lip of the iliac crests, and lateral crests of the sacrum, extending upward to the occiput under the dorsolumbar fascia, and being attached to the ribs and transverse processes of the vertebrae. The action of this group of muscles is to extend the vertebral column.

The quadratus lumborum is a broad quadrilateral muscle arising from the iliolumbar ligament and adjacent portion of the iliac crest and is inserted into the lower border of the last rib for about half its length and by small slips to the tips of the transverse processes of the upper four lumbar vertebrae. Between the quadratus lumborum fascia and the muscle lies the twelfth thoracic, ilioinguinal, and iliohypogastric nerves. The

action of these two muscles together is to flex the trunk; or singly to bend the spine toward its side.

The anterior branches of the anterior divisions of the lower six thoracic nerves run between the internal oblique and transversus to where their aponeuroses blend behind the lateral margin of the rectus. They then pierce every structure to the skin and ramify in the subcutaneous tissues. The anterior branch of the first lumbar nerve divides into the iliohypogastric and ilio-inguinal nerves, which run forward between the internal and external obliques to the rectus, where they become cutaneous. The iliohypogastric nerve becomes cutaneous an inch or so above the superficial inguinal ring and supplies the skin parallel to Poupart's ligament. The ilio-inguinal nerve passes through the inguinal ring and supplies the upper medial aspect of the front of the thigh and lateral surfaces of the scrotum.

The lateral cutaneous branches of the anterior divisions of the lower six thoracic and first lumbar nerves arise and become cutaneous in the midaxillary line. The lateral cutaneous branches of the twelfth thoracic and first lumbar nerves cross the iliac crest and ramify about the skin of the gluteal region as low as the level of the greater trochanter.

The posterior medial branches of the posterior divisions of the lower six thoracic and first lumbar nerves descend close to the spinous processes and then supply the skin near the midline posteriorly.

The posterior lateral branches of the posterior divisions of the lower six thoracic and first lumbar nerves descend downward for a considerable distance and then become superficial to supply the skin posteriorly. The first lumbar nerve supplies the skin posteriorly in a triangular area over the ilium just lateral to the midline.

Theory of Causalgic Backache

THE gluteal and sacrospinalis muscles are subjected to great strain when one bends, stoops, or attempts to lift a load in the flexed position. The quadratus lumborum muscle is also subjected to this excess strain. If, then, upon a strain to these muscles there is superimposed a toxic focus, a fibrositis results.

Causalgic backache is produced by the mechanics of muscle imbalance on the spine. The normal weight-bearing line is maintained by the action of opposing muscle groups. The trunk is maintained erect in equilibrium by the abdominal muscles and the quadratus lumborum in front and the sacrospinalis group behind. The pelvis swings on the femoral heads and its inclination depends on the above-mentioned muscles that hold the trunk erect together with the glutei posteriorly.

A PROLONGED action or weakness of some of these groups of muscles allows contractures to develop in the active groups of muscles. With the contracture there is a change in the lumbar lordosis due to shortening of the posterior spinal muscles. The abdominal muscles become weakened and with the contracture of the posterior spinal muscles the pelvis inclines anteriorly. With spasm of the quadratus lumborum the last rib on that side of the spine is deflected downward with a more acute angle and that on the opposite side is deflected outward at a more obtuse or normal angle. As the twelfth rib is drawn downward it also rotates forward, giving relatively a longer space than normal for the twelfth dorsal nerve to cross from the intervertebral foramina to the subcostal groove. The patient then assumes a position of asymmetrical muscle imbalance, a functional scoliosis appears, and a pelvic tilt occurs. Due to the uneven distribution of weight, the thigh on one side rotates internally at the hip and the foot pronates. This pronation of the foot and internal rotation of the femur pulls the pelvis more forward on that side with a further drop in the pelvis to that side. This drop gives an abduction of the extremity on that side and adduction of the extremity on the opposite side. The measurements of the extremities will be the same, but the effect of abduction of one extremity and adduction of the other gives the effect of a short lower extremity so often seen.

Motion at the dorsolumbar spine plus a toxic focus, in time, then produces a chronic inflammatory reaction about the costovertebral articulations and the muscle attachments with muscle spasm. This inflammatory reaction produces pressure

on the nerves within the fascia of the quadratus lumborum muscle, giving rise to the causalgic symptoms with increased muscle spasm of the low back muscles.

This causalgic syndrome, when present, is quite constant with all the physical findings to be noted.

If the heel on the abducted extremity is then raised by an elevation sufficient to overcome the pelvic tilt, the quadratus lumborum is relaxed by placing its origin and insertion in a more normal plane. The scoliosis is corrected and the internal rotation of the thigh is overcome. The ribs return to their normal angle with the vertebrae and the iliac crests are on the same level or slightly overcorrected.

There has been much experimenting with structural scoliosis, using wedges on shoes, elevations under the heels, and elevations under the buttocks to try to secure correction of the deformity. There is mention of using elevations under the heel in functional decompensation, but no paper has correlated the findings of functional decompensation with causalgia.

Etiology

MANY chronic low back cases have no definite etiological factor other than poor posture. The other factors are trauma, focal infections, or acute upper respiratory infection.

Females predominate over the males and some have dated their symptoms from pregnancy or shortly after delivery. The onset of symptoms is in the third decade. All of the patients have been right-handed.

History

THE history of these patients is quite characteristic. They have suffered for years from pain in the low back that they usually localize with the hand over the crest of the ilium or mid-lumbar area. Pain is unilateral, as a rule. If pain is right-sided, all patients have had appendectomies, gallbladder surgery, or urological instrumentation without relief. Pain is described as an ache, tearing apart, boring, or stabbing in nature. Pain awakens patient at night. The pain that awakens the patient at night begins near the midline and usually radiates toward the side after arising. Patients are un-

able to get comfortable on going to bed and twist and turn for ten to twenty minutes to get relief. Coughing, sneezing, or missing step while walking gives severe pain that may double them up. Pain may be brought on by bending over a washbasin in the morning or bending over to do any type of work. There may be pain in the thigh laterally and over the lumbosacral area or upper gluteal area posteriorly.

Examination

EXAMINATION of all patients reveals muscle spasm of the lumbar muscles of varying degree, with limitation of motion of the spine in all directions and especially in flexion. There is an increased lumbar lordosis. A scoliosis is present on standing, but disappears on lying. A pelvic tilt with abduction of one lower extremity, internal rotation of the thigh and marked pronation of the foot on the low side is found. On the high side of the pelvic tilt there is adduction of the lower extremity, little or no rotation of the thigh and mild pronation of the foot. To test for the pelvic tilt and internal rotation of the thigh the patient must be stripped of all clothing and must stand equally on both lower extremities with the feet parallel and about four inches apart. The rotation of the thigh may be easily overlooked with the feet in external rotation. Hyperesthesia is present over the twelfth dorsal and first lumbar nerves to pinching of the skin. There is tenderness along the nerve trunk, especially at exits through fascia or muscle, and is also elicited by pressing upward on the lower edge of the rib. There is tenderness parallel to Poupart's ligament, upper inner aspect of the thigh and over the twelfth dorsal and the first lumbar transverse processes paravertebrally. Poking of the skin is painful. Poor posture is present. Leg length should be measured lying and tested standing with blocks of various heights under the heels. The patient usually can tell when the elevation is sufficient. X-rays are usually essentially negative.

Treatment

TREATMENT consists of checking for all foci, correction of the pelvic tilt

by elevation of the entire heel on the abducted side sufficiently, and exercises to strengthen the abdominal muscles and weaken the sacrospinalis muscles.

Conclusions

1). We wish to call attention to a symptom-complex occurring with pain in the low back area that is a clinical entity.

2). Muscle imbalance plus a toxic fo-

cus can produce twelfth dorsal and first lumbar nerve causalgia.

3). The syndrome needs further study to determine more definitely why this muscle imbalance occurs.

4). We are continuing the study with x-rays and with measurement of the rib angles.

5). No cases of short lower extremity or those with a structural change in the spine are included.

PROFESSIONAL BUILDING.



FURTHER COMMENTS ON

Human Sterility

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DUE to the intricate phenomena of the reproductive cycle, sterility is a subject which has baffled the human race for years. In the past two decades, a new interest has been created, further developments made, and a broader understanding achieved, with the result that its therapeutic approach is now more efficient.

The exact incidence of involuntary sterility is difficult to estimate. The general consensus of opinion, after many critical analyses of available data, is that somewhat more than 10 per cent of marriages are fruitless. Sterile unions in cities double those in rural districts. It is among college graduates, especially

in women, that the highest percentage of sterility (25 to 30 per cent) exists today. It is much higher in the middle classes than in manual workers and those leading a sedentary life with its usual ill effects are prone to fall into the class of infertility.

Among the lower animals the physiologic sex function is commonly one of absolute fertility. As we ascend in the scale of civilization the human animal, however, is by comparison with others a poor breeder and rarely possesses the power of absolute fertility. This may be due in part to our present-day environment, high-gear age, and artificial mode of living, causing a drain upon the physical and nervous make-up.

Every female child is a potential mother. Nature, in her infinite wisdom, has provided every woman from the time of birth with a maternal sense and desire for children. Woman's most important biologic function is reproduction.

From the Department of Obstetrics, Medical College of Virginia.

Read before the Richmond Academy of Medicine, March 22, 1938.

PERHAPS the best time for women to marry is between twenty and twenty-five; men, between twenty-one and thirty. No woman should be permitted to marry until she is fully developed physically and mentally. The ill consequences of too early marriage may be seen among the Hindus, who regard it a disgrace if a girl does not marry quite young, indeed, before the age of puberty. Experience proves, however, that girls who marry at a very early age are inferior in fertility. Recent studies have been made in a large series of young primigravidae with special reference to their marital history as related to their fertility. Although sex life was fully active from puberty, no pregnancy followed until from one to several years later. It may be that the menses for a time after puberty were of the anovulatory type. Not only is the absolute age of the woman of importance in deciding on the advisability of marriage, but the relative ages of both parties must also be taken into account, first with respect to the woman's possible fertility and secondly regarding her general health. The most suitable arrangement is that in which there is no marked difference in age. A very great disparity of age in either direction is a serious error. If a very young girl marries an elderly man, or a developed matron marries a young man, the true purpose of marriage is unfulfilled and the eternal laws of nature are infringed. The physical and psychological textures are greatly impaired.

Consanguineous or kin marriages should be discouraged for they exert an evil influence. A single child, the unstable fruit of worn-out stock, is usually low in fertility. It is far better to recommend the crossing of healthy individuals proceeding from different families and from different constitutional types. Strangely enough, dissimilars attract one another. It is one of nature's adroit ways of improving the race.

Due to the present day highly organized state of society, early marriage at the natural age sometimes becomes impossible and irregular unions frequently occur. All of these unnatural social restrictions are prone to produce congestion and misery and to substitute an unnatural, unhealthy mode of life for a natural, healthy one. The Biblical passage of

"Be fruitful; multiply and replenish the earth" has been replaced by a modern declaration of "Practice birth control and avoid worry."

Birth control or voluntary limitation is perhaps the chief factor in the rapid decline in the production of children, but there is a certain number of couples who are extremely anxious and desirous of offspring. The childless marriage is a sad tragedy and often leads to home maladjustment with a consequent attitude of depression towards life's interests. The question of involuntary sterility is a serious factor, the magnitude of which warrants a full and comprehensive investigation of its many complexities.

IN two previous publications, the writer discussed at length the technique of the Rubin and lipiodol tests, but will now attempt to present a survey of many other cardinal points, especially those concerning etiologic and therapeutic aspects.

There are many pathological conditions in both partners that may be responsible for a sterile union. To obtain the best possible results we must have the partners' cooperation. With many, there is a feeling that simply because the husband has many live spermatozoa and that both partners are apparently in good health that this seems to be all that is necessary. This is absolutely erroneous and a further search is essential, in order to delve into the inner recesses of our complex structure. Meaker, of Boston, has, undoubtedly, the best pattern of sterility investigation. His method is one of group-study in which the members of the staff represent the various departments in the field of medicine. This, however, is not possible in every locality, but a closer interrelationship between physicians of different branches should be stimulated and much can be accomplished.

When a patient presents herself for study a complete history should be taken, followed by a general physical examination. The husband should be questioned regarding the marital relations, any past venereal disease, and his present state of health; if any suspicious circumstance is noted he should be directed to one qualified to treat the specific condition

which may be implicated. It may be well to comment briefly on some of the causative factors in the male, before discussing those in the female, such as obesity, gonorrheal infection, mumps, prostatitis, hypospadias, traumatism of external genitalia, atrophy of or undescended testes, urethral strictures, sexual excess, impotence, premature ejaculations, and habitual wearing of suspensory bags.

In the female, a careful search should likewise be made into local and constitutional factors. A definite routine plan for both should be carried out in every instance. Mention may be made of the following: obesity, hypothyroidism, foci of infection, history of mumps, venereal disease, genital hypodevelopment, vaginal and cervical atresia, pin-hole os, mucous plug in cervix, hypertrophic elongation of cervix, endocervicitis, uterine displacements, tumors, tubal occlusion, and marked acidity of vaginal and cervical secretions. Not only may the secretions of the genital tract be injurious to the spermatozoa by their quality, but a very abundant secretion may interfere with fertilization. Excessive secretion is apt to be very dilute and, if the spermatozoa are immersed in a fluid of which the specific gravity is too low, they swell up from acquisition of water and their movements are checked. But excessive secretion, such as is sometimes met with in cervicitis, may also have a purely mechanical deleterious action by washing away the semen out of the vagina. If the quantity of the semen is unusually small, contact with the normally acid mucus may suffice to render the spermatozoa speedily motionless. When the cervical secretion is of a too tenacious consistency, so that it fills the os like a plug, the upward passage of the spermatozoa may be barred.

It is now known that constitutional disorders have a specific effect upon gametogenesis in both sexes. In patients who exhibit such factors as foci of infection with consequent chronic intoxication, gastro-intestinal toxemia, colonic stasis and severe constipation, there is a lowering of biologic energy and altered metabolism frequently leading to faulty gametogenesis. This is probably due to a definite poisoning of the spermatogonia

and oogonia or a primary depression of the endocrine apparatus which results in poor stimulation of the development of sex cells. Clinically, it has been observed that in a fair number of cases men suffering from the above-mentioned conditions produce poor semen, but that after the underlying focus has been removed a marked improvement often follows. Furthermore, in the male, the lowered activity of the thyroid has a deleterious effect on spermatogenesis.

Special importance should be ascribed to late puberty and to irregularities in menstruation. Significant weight changes together with abnormal growth of hair on the face, abdomen and extremities strongly suggest endocrine disturbances. Hypothyroidism has a peculiar effect on ovarian function, ovulation and menstruation. There is usually an associated degree of obesity which lowers the state of fertility.

Occasionally, sterility may be due to the fact that ovulation is not taking place and yet the menses may occur with a definite degree of regularity. This is termed the anovulatory type of menstruation. In order to ascertain the exact condition, endometrial biopsy may be employed with a suction-curet as designed by Novak. This consists of a specially constructed cannula connected with a bottle by a rubber tubing. By means of aspiration, portions of uterine mucosa may be subjected to microscopic study. This biopsy is performed just prior to the expected menses. If ovulation has occurred, a corpus luteum has been formed, progesterin has been produced and the usual secretory changes will be noted in the endometrium. If only one type or other of proliferative but non-secretory change is found in the endometrium, it is usually conceded that ovulation has not occurred. The injection of prolan-containing principles obtained from the urine of pregnant women is recommended. In the newer light of study, it is now believed that where menstruation occurs quite regularly there is no guarantee that the ovum can be fertilized. Modern embryologists have accepted the view in this regard that the germ-plasm of certain eggs is incapable of fertilization. Furthermore, the female ovum in all animals can live only a few hours

and the spermatozoa usually lose their power of fertilization after forty-eight hours. If union does not take place within a few days, pregnancy does not follow.

ONE factor often neglected in history-taking is the question of mumps in both partners. Bosch believes that a large number of women with hypoplasia of the genitalia had mumps during puberty or before that period. Many of these women recall having had pain in the sides during the attack. Among men it has long been known that orchitis is frequently associated with mumps, but there is scant reference in the literature about a similar condition among women. In men with orchitis there is an interstitial inflammation which, if bilateral, leads to atrophy of the testicles and sterility. It is possible that in young girls with mumps there is a similar pathology in the ovary which leads to hypoplasia of the genitalia and sterility. In these cases there is usually a scanty menstruation with dysmenorrhea. The outlook is not promising because the sclerotic changes in the ovaries prevent ripening of the follicles and cause a disturbance in their internal secretion.

One may venture to say that the time is not far distant when pre-conceptional care and even care at puberty will play an important role in the field of conservative obstetrics. This plan will tend to bring about the proper development of these young women, who may reach the reproductive stage in better physiological form.

The psychosexual status should be carefully studied for it may furnish satisfactory data as to the causation of sterility. There may be a physical and mental incompatibility. Both the husband and wife should be questioned, especially regarding the following vital points: frequency of coitus, dyspareunia, their attitude toward intercourse, whether the interruptus method is practiced, if an orgasm is experienced and, if contraceptive methods are being used, what type. These are extremely important for there may be some hidden sexual maladjustment which will unfold a ray of light and readily yield to treatment.

A history of induced abortion, es-

pecially if followed by infection or a difficult and prolonged labor with pelvic pathology, may provide sufficient information leading to a cause of sterility. The latter is known as "one-child sterility."

IN approaching the practical management of sterility, it must be remembered, at the outset, that each case must be individualized and, whenever possible, the underlying cause removed. Although much knowledge is now at our disposal, there still remain many hidden and secret factors which form a mysterious cloud over this most important topic. The rational therapeutic attack is a combined local and systemic campaign.

After the complete history and physical survey of both partners concerned, the first step is the examination of a condom specimen of semen. Following this the Huhner test should be carried out. A rubber receptacle known as the Hy-kup may be inserted into the vagina for the collection of semen. Study of the spermatozoa should be centered about their number, motility and morphology. At least 80 per cent should be actively motile and not more than 20 per cent show abnormalities in the sperm heads. Defective spermatogenesis is a direct bar against pregnancy. One with motile spermatozoa is not necessarily fertile nor is he with inactive spermatozoa hopelessly sterile. A basal metabolism test should be made on both. If low or even within normal limits it is best to administer thyroid extract over a considerable period, for it is a well established fact that the degree of fertility is thereby markedly increased. In the woman a combination of thyroid, ovarian and anterior pituitary extracts may have to be given.

The recently acquired knowledge of the female hormones has entirely changed the older methods of treatment of sterility. Administration of the anterior pituitary-like hormone has given fairly good results. It is generally conceded that thus far, of all the gland products, thyroid has proved to be the most useful in endocrine disturbances, such as amenorrhea, sterility and abortion. Litzenberg, in a recent article, studied the relation of the basal metabolic rate

to sterility, abortion and menstrual disturbances and obtained encouraging evidence of effective thyroid treatment. He found sterility definitely associated with a low metabolic rate. Thyroid medication resulted in a fair number of pregnancies.

ONE of the most important developments in the field of nutrition has been the discovery of a specific factor which is essential for reproduction. This factor is now known as vitamin E (formerly X). The use of this anti-sterility vitamin both in animal experiments and clinical application has been greatly emphasized. Its tendency is toward the prevention of sterility and promotion of lactation, and it probably aids in the development of the fetus. This substance of wheat germ oil is prepared from fresh wheat germ by extraction. It has been found that vitamin E is required by both male and female, but the difference between the manifestations of deficiency in the two sexes is striking. In the male, the germinal cells degenerate and the testes atrophy; while in the female no apparent degeneration of the ova or other ovarian tissue occurs, the deficiency symptoms being apparent only in the embryo. In the treatment of humans, Vogt-Moller reports twenty-five cases of sterility and habitual abortion in which wheat germ oil was administered. Especially in habitual abortion, the results were encouraging. It is a good practice to prescribe this preparation both to husband and wife. It is believed by many authorities that certain diets, especially those rich in proteins, have a markedly beneficial effect on reproduction.

The Rubin test should be performed to determine the patency of the tubes and on the following day lipiodol injection with x-ray studies made for the same purpose. The technique of these tests was fully described in two of my previous articles. A temporary spasticity of the tubes may reveal a false negative test, but this can usually be overcome by a preliminary course of belladonna prior to the Rubin test. The above are chiefly diagnostic procedures but frequently serve as therapeutic measures. The Rubin test may be performed as many as

four or five times on the same patient with intervals of two months.

FOR the marked acidity of vaginal and cervical secretions, a sodium bicarbonate douche one hour prior to coitus is recommended. If there is an effusion of semen the patient is instructed to place a small pillow under the hips during intercourse and to remain in this position for five minutes, then to assume the knee-chest position for a similar length of time.

For an "infantile uterus" with cervical atresia a D and C is performed and followed by the introduction of a stem pessary which is removed in from seven to ten days. If associated with endocervicitis, a cauterization is done. A note of warning may be sounded to condemn too many D and Cs in the same patient. This produces a superinvolution and defeats the very purpose at which it is aimed. The "pin-hole" os is not always a cause of sterility but the cervix is frequently merely blocked by a plug of mucus. If there is no visible lesion present, the best method of attack is an active hyperemia secured by means of a glass suction tube applied over the cervix for a ten-minute period three times a week.

Salpingostomy, or surgical intervention for tubal occlusion, has not given satisfactory results. In a small percentage of selected cases it may be performed with full explanation to the patient that there is no certain guarantee. With the abdomen open, insufflation from above through the fimbriated extremity, either with air (using a small bulb syringe) or normal saline solution injected with an ordinary medicine dropper, will assist in finding the occlusion and occasionally demonstrate patency. Probing the entire tube may create false passages and subsequently produce small bands of adhesions within the lumen wall. Incidentally, it may be well to mention that if one tube is pathological and the other is reasonably normal the latter must, of course, be conservatively dealt with, for if the patient possesses even one fairly healthy tube and ovary her chances for pregnancy are good. Conservatism should be the keynote in all of these operations.

ARTIFICIAL intra-uterine insemination in the human female was first done by Simms in 1866. Since that time a great deal has been written on the subject. In many instances the patients either refuse this procedure or raise objections on medical, moral, social and even legal grounds. It should be performed only in selected cases and especially where there is a long stand-fault of delivery and reception of the semen and a hostility of the endocervical secretions. There is always a possible source of infection and it should never be attempted in the presence of pelvic pathology. Perhaps the best time falls between the twelve and fifteenth day after the onset of the menses. Semen may be collected in a condom or sterile glass beaker. The writer has designed a small cannula long enough to pass above the internal os and at the same time minimizing the chances of traumatism and capillary bleeding. It is attached to a graduated syringe. The cervix is exposed and wiped dry. From two to four drops of semen are injected into the uterus and as the cannula is being withdrawn the external os is bathed with several drops of the semen. To insure better results the hips are slightly elevated from five to ten minutes.

In not a few cases where both parties have been proven to be normal, fertilization does not seem to occur. In this type a complete and radical "change in scenery" is frequently conducive to the general well-being of each partner and may subsequently result in a fruitful union.

Too many patients put off seeking advice and permit pathologic lesions to progress. The old maxim about an "ounce of prevention" finds a fitting paraphrase in this instance, viz., the prevention of sterility. The general management and

care of infertility extends into many fields of educational endeavor. There are several outstanding underlying factors which should be ruled out, such as genital hypoplasia, faulty sex hygiene, venereal disease, improper therapeutic measures and procrastination in treatment.

Conclusions:

(1) An investigation of sterile mating should embrace a complete medical history of the life and habits of both partners; (2) complete physical examination of both; (3) thorough study of semen; (4) routine Rubin and lipiodol tests (when there are no contraindications); (5) endocrine study (general and gynecologic); (6) ascertain possible cause and attempt to correct it; (7) routine laboratory work; (8) persistence in treatment may sometimes yield happy results.

Science does not stand still. The physician today must continually adapt his ideas to the rapidly progressing changes in the scientific fields which form the background of medicine. One of the most notable recently developed is that of endocrinology. These studies have opened up a new lead in sterility problems. This new application of endocrine therapy is but another of the many developments and has added a brilliant chapter to medical science. Lately, the tone of this branch has been placed upon a higher plane. While the knowledge of the subject is limited the future seems full of promise.

The subject of sterility is saturated with human interest and we should endeavor to illuminate this hitherto dark page of gynecologic problems.

May the woman who embodies the true spirit of motherhood realize her fondest hopes.

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THE MANAGEMENT OF

Hyperemesis Gravidarum

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IT is generally agreed that there are two types of hyperemesis, neurotic and toxic, which at the onset can not be differentiated by any known clinical or laboratory findings.

Usually, however, after a few days of observation and proper management, the diagnosis becomes evident from the manner of the patient's response to treatment.

Our experience with these cases leads us to believe that the neurotic type occurs much more frequently. Therefore the presumption should be in its favor, unless isolation, suggestion, intravenous glucose therapy and proper feeding fail to bring about improvement.

In the management of these cases, we stress isolation, suggestion, rest, the administration of sufficient carbohydrate, and maintenance of adequate fluid intake.

Isolation:

WHENEVER the diagnosis of hyperemesis is made the patient is strictly isolated in the hospital, since experience has shown that proper isolation is impossible in the ordinary home. A "No Visitors" sign is placed on the door in order that well meaning, sympathetic relatives, who may undo all that may be accomplished by suggestion, are excluded. An intelligent nurse, experienced in the care of such cases, supervises the details of treatment.

Suggestion:

THE patient is assured that her condition is not alarming and that it will not require interruption of the pregnancy. She is informed that similar cases have responded to treatment within a few days and such assurance should be constantly repeated by all who come in contact with her so that she is made to

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feel that ultimate cure is certain; promptly if she cooperates, more slowly, but just as inevitably, if she does not.

For years at this clinic, we have used subcutaneous injection of from 2000 to 2500 cc. of normal saline solution with great success. Of course this is an unpleasant experience for the patient. However, she is assured by the doctor and nurse that only one injection may be required. Prompt improvement as a result is frequently observed. The patient, on the other hand, is made to understand that the injection will be repeated if necessary.

Rest:

IT is essential that the patient be kept in bed in a quiet, well ventilated room. For the first twenty-four to forty-eight hours, nothing is given by mouth, but sedatives are introduced in the proctoclysis solution.

The *fluid intake* is maintained in order to overcome the dehydration that is always present. This is accomplished by the introduction of at least 3000 cc. of fluid daily. Fluids are given in the form of glucose solution either by vein, per rectum, or by duodenal tube, and saline is used subcutaneously. When it becomes evident that the patient can take food without vomiting, fluids are given in small amounts between feedings.

Administration of Carbohydrates

Intravenously:

FIVE hundred cc. of twenty per cent glucose is given slowly at least three times a day and the patient is assured of the great value of this form of therapy.

Proctoclysis:

AFTER a low enema the Harris drip is utilized. The solution used is made up of 5 per cent glucose and 2 per cent sodium bicarbonate. To this are added one hundred grains of bromide to every 1000 cc. of solution used. The temperature of the fluid is maintained at 110-115 degrees. In this way, fluids are absorbed continuously.

Duodenal Feeding:

OCCASIONALLY intravenous therapy may be contra-indicated. If so, 50 cc. of a 20 per cent glucose solution are

given frequently through a Levine tube, introduced into the duodenum through the nose and left in place for twenty-four hours.

After twenty-four hours of isolation, rest, suggestion, and the introduction of glucose and saline solutions, in the manner described, the patient usually is ready to take food. In addition, she may ask to see her relatives. These requests are granted if she is able to take food by mouth and retain it for several hours. Should vomiting recur, however, her requests are ignored and the routine continued for another twenty-four hours, after which time the experiment is repeated.

When the treatment as outlined is meticulously carried out, improvement occurs rapidly and these patients are able to take frequent small feedings of dry foods of high carbohydrate content such as glucose candy, toast, zwiebach, uncooked cereals, soda crackers, rice, and baked potato. As stated above, fluids are best taken between meals.

Very occasionally this routine fails due to the fact that the doctor or nurse is a poor psychologist or because the condition is one of severe toxic vomiting. In either event, interruption of pregnancy is indicated before it is too late.

Should the case be protracted there always is present the possibility of vitamin deficiency with its resulting polyneuritis. For this reason, vitamin B should be administered whenever the patient is unable to take a balanced diet.

DURING the past eight years, there have been admitted to our service 57 cases of hyperemesis gravidarum, an incidence of .6 per cent.

Only 12 of these came from our prenatal clinic, and of these, 9 were referred by private physicians. In other words, only 3 patients in the entire series came from the class of patients who voluntarily came to our antepartum clinic, showing again how rare hyperemesis gravidarum is in patients of this class.

Since no patients died, our treatment may be regarded as having been successful in all cases. On the other hand, we have come to regard as failures those cases in which interruption of pregnancy is necessary. As this procedure was re-

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Associated Physicians

OF LONG ISLAND



THE 123rd regular meeting, outing and dinner of the Associated Physicians of Long Island will be held on Thursday, June 1st, at Bethpage, Long Island. The scientific program will be presented by the staff of the Nassau County Sanatorium at Bethpage (formerly Farmingdale).

Golf and other outdoor activities will take place and the usual good fellowship dinner will be held at the Bethpage State Park Club House. This will be a delightful spot to spend an afternoon and evening on the first day of June. Keep the date open.

The Associated Physicians of Long Island for 1939-1940

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SPECIAL ARTICLE

CLINICOPATHOLOGIC CONFERENCES OF THE LONG ISLAND COLLEGE OF MEDICINE

CASE IV—It is helpful to recognize limits of accuracy not only of single clinical observations but also of that resultant of multiple clinical observations, a clinical diagnosis. The following case presents points of illustrative value in this regard.

Conference of December 1, 1938 at the Hoagland Laboratory, Henry and Pacific Streets, Brooklyn, conducted by Dr. Tasker Howard, Professor of Medicine, and Dr. Jean Oliver, Professor of Pathology, the Long Island College of Medicine. Reported by Elliston Farrell, M.D.

IN April, 1937, a fifty-year-old white Armenian housewife was referred to the medical service of the Long Island College Hospital for study. The patient had been in excellent health until October, 1936, when she first noted a small non-tender mass in the right groin. This gradually enlarged, and in the following three months similar lumps appeared in the right lumbar region and in the right side of the neck. None of these masses was tender. All progressively enlarged. One month before admission she began to experience a sense of distention in the left upper portion of her abdomen. When walking this increased, and she had a feeling of constriction. This discomfort was relieved by rest. It was not associated with dyspnea. About one month before entry she began to have a dry cough, intermittent in character, brought on by drinking something cold. She had no headache, visual disturbances, palpitation, chest pain, or edema. There were no symptoms of gastro-intestinal or genito-urinary disorder. Her past history and family history were irrelevant.

Physical Findings

T. 99.8 P. 96 R. 22

The patient was well developed and

well nourished. The tonsils were greatly enlarged and cryptic. In the neck there were three or four bean-sized, non-tender, discrete glands in the upper cervical chain on the right, and two small shotty glands in the posterior chain. There was one gland about 2 cm. long in the right supraclavicular fossa.

The heart did not appear enlarged to percussion, but the supracardiac space was widened, being 9 cm. in the 2nd interspace. There were a moderate number of subcrepitant râles at each lung base but the breath sounds were elsewhere vesicular. In both axillae were numerous discrete nodules, firm and not tender. These varied in size up to 2 cm. in diameter. Over the right shoulder there was a similar subcutaneous nodule 3 cm. in diameter, and over the right lumbar region there was one which was 5 cm. in diameter. The spleen extended to the level of the umbilicus, and was firm and nodular. There was a mass felt in the mid-epigastrium, about the size of a grapefruit, which was firm, hard and nodular. It was not connected with the liver, which could be felt three finger-breadths below the ribs. Both inguinal regions were filled with discrete nodes, varying in size up to 2 cm. The extremities appeared normal, and the reflexes were physiological.

Laboratory Findings

BLOOD count: Hgb. 69% (Sahli); RBC 3.56 millions; WBC 8,200; P 64%; E 2%; L 25%; M 9%. Urine: acid, sp.

gr. 1.020; albumin, faint trace; sugar, negative. Stool: No occult blood. Blood chemistry: Sugar 100 mgm.%; urea N 7 mgm.%. Blood Wassermann and Kahn: Negative.

An x-ray film of the chest showed the heart transversely placed, and the aorta elongated. There was widening of the mediastinal shadow to the right of the mid-line, the appearance suggesting a mediastinal mass. The right lung was well aerated. The left lung showed rather marked, discretely outlined, hilar adenopathy without pulmonary infiltration. X-ray examination of the abdomen showed the spleen rather markedly enlarged.

Course in Hospital

THE only significant feature of the patient's course in the hospital was a low grade fever which varied between 98 and 100. A biopsy of one of the cervical nodes was taken and a diagnosis made. The patient was discharged May 11, 1937 and referred to the Polhemus Clinic for radiation therapy.

Interval History

THE patient felt well during the first few months of treatment, gaining weight and becoming symptom free. In November 1937 she began to have frontal and occipital headaches, and the following month she developed diplopia. She received more radiation at this time, with some directed at the head. In January she noticed weakness of the right leg, but with the continuation of radiation therapy this cleared up after a few weeks. Therapy was continuous from this time on. One week prior to admission she began to lose her appetite, and she noticed an intermittent fever. She became quite weak and was advised to enter the hospital, which she did August 30, 1938, nearly a year and four months after her original discharge.

Physical Findings on Readmission

T. 101.4 P. 84 R. 22 BP 88/50

Examination showed a rather pale woman with large areas of brownish pigmentation of the skin. There was a slight ptosis of the upper right eyelid associated with enophthalmos. The pupils were equal and reacted to light and accommo-

dation. The tonsils were very small, and there was a mild pharyngeal injection. The lungs were clear to percussion and auscultation. The supracardiac dullness was widened to the right. The heart was apparently normal. The axillary glands were small and shotty. The abdomen was slightly distended, but there was no rigidity of the wall. The liver was felt just below the ribs. The spleen was felt 4 cm. below the costal margin. There was moderate tenderness in the right inguinal region, but no glands could be felt on either side. Both epitrochlear nodes could be felt. The knee jerks could not be obtained.

Laboratory Findings on Readmission

BLOOD count: Hgb. 29% (4.5 gm.% Haden-Hauser); RBC 1.59 millions; WBC 600; differential count not done. Urine: clear, acid, sp. gr. 1.012, albumin negative, sugar negative; occasional finely granular cast seen. Blood chemistry: Sugar 112 mgm.%; urea N 11.3 mgm.%. Blood Wassermann and Hinton: Negative.

Course in Hospital

X-RAY films of the left arm showed multiple soft tissue masses.

Until her death, one month after the second admission, the patient ran a febrile course with the temperature fluctuating between 100° and 104°, with a preagonal elevation to 105.6°. Pulse during these weeks varied between 90 and 120, generally being a little slow relative to the fever. Respiration rate was moderately increased, but not abnormally so.

Vigorous efforts were made to combat the anemia by transfusions and by large doses of liver extract, and to overcome the agranulocytosis with the aid of pent-nucleotide. On September 8 the hemoglobin was 48%, red count 2.41 millions, and white count 500. This represented the greatest advance in red cell values which was obtained, and this level could not be maintained. The white cell count was unaffected by therapy. Shallow ulcerations of the buccal mucous membranes appeared and progressively enlarged. A troublesome cough developed; and what seemed to be a bronchopneumonia led to exitus on September 28.

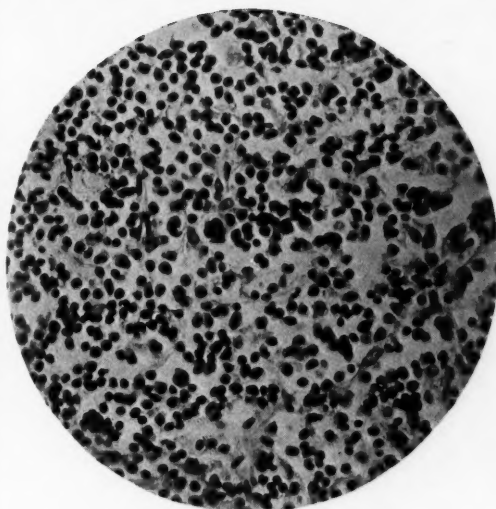


Fig. 1

Clinical Diagnosis

THERE was a general agreement at conference that the patient had suffered from one of the lymphomatoid diseases.¹ The clinical ward and laboratory findings suggested Hodgkin's disease or lymphosarcoma rather than leukemia, but there was considerable difference of opinion as to which of the first two possibilities was the more likely. When a vote was taken, though one member of the staff held out for lymphosarcoma, a majority preferred Hodgkin's disease because the adenopathy was of general rather than of regional character.

Pathological Findings

ON external examination a general icterus and many petechial hemorrhages were seen. There were a few small nodes palpable in both axillae and both groins but no definite masses could be felt. On opening the peritoneum 200 cc. of cloudy reddish fluid were present and the cecum was bound down to the parietal peritoneum by very dense adhesions.

In the thorax the mediastinal tissues were free of large glands. The heart showed no significant lesions nor did the lungs, except for areas of collapse.

In the abdomen the spleen was found somewhat large (weight 200 grams) and it contained a white tumor nodule 1.5 x 1 cm. in diameter. The liver and kidneys showed intense jaundice.

The wall of the cecum measured 1 cm. in thickness. Its mucosa was blackened and necrotic and in the zone surrounding this area were numerous grayish-white nodules which in places were confluent. The remainder of the gastro-intestinal tract was normal.

On dissection the lymph glands of the neck were not enlarged. Surrounding the lower part of the aorta, however, was a dense mass of tumor tissue made up of coalescing lymph nodes. These extended laterally into the region of the thickened cecum. The mesenteric lymph

glands appeared normal.

MICROSCOPICAL examination showed similar tissue in the splenic nodule, in all the lymph glands, including those in the cervical region that were not enlarged, in the mass of peri-aortic tissue, beneath the necrotic mucous membrane of the thickened cecum, and in the bone marrow of the ribs of the sternum. The tissue was composed of atypical lymphocytes scattered in a connective tissue reticulum which in places was thickened and hyalinized. There was no infiltration with eosinophiles nor were Dorothy Reed giant cells present (fig. 1). Throughout this tumor tissue in all organs scattered areas of necrosis were present. The lung parenchyma was largely necrotic and numerous gram-positive cocci were present in necrotic areas of the spleen and kidney.

The anatomical diagnosis was therefore:

1. Lymphosarcoma of lymph nodes, generalized.
2. Lymphosarcoma of spleen, cecum, and bone marrow.
3. Anemia, aplastic.
4. Necrosis of cecum.

5. Septicemia.
6. Abscesses, multiple, spleen and kidney.

Discussion

IN the present state of our knowledge, the clinical differentiation between lymphosarcoma and Hodgkin's disease is so uncertain that success in making this differentiation requires good luck as well as good judgment. The verdict of the pathologist is necessary. In some cases the blood picture may be helpful² but in others even the complete necropsy examination may leave the exact diagnosis in doubt. In the present case the neoplastic tissue was almost purely lymphocytic in its cellular content and there was no evidence of proliferating reticulum elements, nor were Dorothy Reed cells or eosinophiles present. The pathologist had no hesitancy, therefore, in the use here of the label *lymphosarcoma*, but in extended experience he meets with a series of histological pictures which pass from lymphosarcoma on the one hand to Hodgkin's disease on the other, with intermediate forms where a diagnosis of either condition might obtain. Both

Hodgkin's disease and lymphosarcoma may present the fundamental characteristics of neoplasia.³ There would seem to be, therefore, reasons other than clinical not to draw the line too fine and to be satisfied with the broader term of malignant lymphoma, which emphasizes the neoplastic character of these conditions and seems preferable to the designation "lymphomatoid disease."

The aplastic anemia which developed during the interval between the two hospital admissions led to an overwhelming terminal bacterial invasion. Necrosis rather than inflammation characterized the histological picture, particularly in the lungs and cecum. To this septicemia must be ascribed the immediate cause of death.

Conclusions

1. The diagnosis of Hodgkin's disease or lymphosarcoma is an anatomical one which can be made only by the pathologist.

2. Pathologists disagree over the anatomical diagnosis in certain cases of suspected Hodgkin's disease or lymphosarcoma.

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LATENT HYPOTHYROIDISM

A DIMINISHED secretion of thyroid is observed very frequently in women, notably in those who have passed the age of puberty and who have not yet reached the climacteric. It is particularly noticeable in young women. These people have what Means calls hypometabolism without myxedema. There is a considerable group of people who have hypometabolism yet seem to be perfectly normal. It should not be considered pathologic if a particular person with low metabolic rate responds to normal stimuli, acts like the average person and complains of nothing. . . . There are, however, a considerable number of young people who show pluriglandular disturbances of which the disturbance of the thyroid is more outstanding than other glands and which thyroid trouble is certainly more satisfactory to treat than are disturbances of the other glands of internal secretion.

J. H. Musser, M.D., in *Tri-State Medical Journal*, August, 1938.



CANCER

CHARLES WILLIAM HENNINGTON, B.S. (Rochester), M.D. (Hopkins), F.A.C.S., *German Literature Editor*, and EDWARD PARNALL, A.M. (Harvard), M.D. (Harvard), *Italian Literature Editor*.

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OF CANCER

IN the consideration of the subject of rectal bleeding it is impossible to limit one's consideration to only such cases where blood is actually coming from the rectal wall, for exclusion of the rectum, as the cause, leaves many other possibilities for the origin of the blood. So that we shall consider, no matter how briefly, the various causes which produce blood in the rectum, whether it be fresh or occult blood. I shall quote from various authors whose opinions differ as to the significance of the findings of blood in the rectum, and when I am all through, it is questionable whether every single cause of blood found in the rectum will have been enumerated, so numerous are they, and so bizarre may they be.

Dr. P. Lockhart Mummery, the greatest living English authority on the diseases and surgery of the rectum, has much to say in various articles. He feels that bleeding from the rectum is a very common form of hemorrhage, and one which frequently gives rise to difficulties and mistakes in diagnosis, more often, in fact, than most other forms of hemorrhage.

It may result from almost any rectal

complaint. Patients, however, almost invariably attribute any bleeding from the rectum to hemorrhoids, and often, on no other grounds than that of finding blood in their stools, will confidently assert that they are suffering from hemorrhoids. So much so is this the case that patients do not recognize any other cause

of bleeding from the rectum, and too often one finds, on questioning the patient, that he has been treated for hemorrhoids by his doctor without a local examination of the rectum ever having been made.

IN investigating the cause of bleeding from the rectum we have to remember that the blood may come from any portion of the alimentary canal.

It is fairly easy to distinguish blood coming from the upper part of the alimentary canal, as it is certain to be partly digested in the intestine, and will be tarlike, or will have the ordinary characteristics of melena.

Blood coming from the large intestine is not so easily distinguished, as it is often not much changed. As a rule, blood coming from the large intestine is more or less intimately mixed with the feces, and is accompanied by the passage of mucus. This is not always the case, however, and in some cases it may be bright red in color, and easily suggests

CAUSES OF *Rectal* BLEEDING

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Read before the Nassau Surgical Society and the Medical Society of the County of Nassau, at Mineola, November 29, 1938.

that it comes from the rectum. This is especially likely to be the case if the stool is not examined till some time after it has been passed. The blood will often become brighter from the absorption of oxygen. As a rule, the blood which comes from hemorrhoids is not mixed with the feces, but comes at the end of defecation. The fact that the blood is dark in color and clotted does not necessarily mean that it has not come from hemorrhoids, as hemorrhoids may, and not infrequently do, bleed into the rectum, and the blood is usually dark and chocolate colored, and mixed with mucus. In many cases, however, the blood is bright red and is passed almost pure, there being no difference between the appearance of the stool and that resulting from hemorrhoids.

NOTHNAGEL (a good many years ago) made up a table showing the relative frequency of different intestinal lesions in causing rectal hemorrhage. He gave the common causes of rectal hemorrhage in the following order: Hemorrhoids, dysentery, typhoid fever and carcinoma of the colon or rectum. When small quantities of pure blood, either light or dark in color, are passed, we may be fairly certain that the blood has come from the rectum or sigmoid flexure. Similarly, when the blood forms a coating to the fecal masses, the cause will almost certainly be in the lower part of the bowel. On the other hand, if the blood is intimately mixed with the feces, the lesion is high up, probably in the small bowel.

Landsman states that the presence of a constitutional disease of some nature or other has a decided bearing on the possibility of bleeding from the rectum, notably tuberculosis, syphilis and hepatic disease. Primary tuberculosis is very rare, but secondary infection from the lungs is quite common. In 1230 autopsies in the Royal Victoria Hospital, but two gave evidence of primary involvement, while 285 were secondary to tuberculosis elsewhere. Syphilis may involve the lower portion of the intestinal tract as chancre, or in its secondary or tertiary manifestations as mucous patches, condylomata, fissures, ulcers, proctitis, gummata and strictures, besides congenital lesions, principally of the anal portion,

which give rise to ulcerations. Of these, chancres and gummata are infrequent, the others fairly common. Hepatic disease may be set down as a fruitful source of rectal bleeding, because of its mechanical and other effects in bringing about pathological conditions of the rectum.

THE character of the blood expelled is not so important as was formerly taught; merely because one loses blood from the rectum is no proof that the source of it is in that organ. It may come from any part of the intestinal tract, and its color is by no means infallible evidence of its origin, despite the rule which is often accepted, that if the blood is dark it comes from high up, whereas if it is red the lesion which causes it is low down. Blood coming from high up is indeed dark, clotted and otherwise altered, but only if retained in the bowel long enough; if it should chance to be expelled before these changes have had time to develop, it will be bright red. Conversely, blood whose source is low down may be retained in the rectal ampulla long enough to become dark, and possess all the characteristics of blood coming from high up. We may even sometimes have both liquid and clotted blood from the same lesion, at the same time, whether situated high or low, thus tending further to confuse the issue; hence we cannot draw any positive conclusions from this circumstance until the findings have been confirmed by more reliable data.

THE quantity of blood lost depends in a great measure upon the size of the lesion, its character and the extent of the destructive process. Multiple polypoid, ulcerative coloproctitis, amebic dysentery, and diseases of similar character, show extensive areas of involvement, and the pathological process inclines rather to deep destruction than to spontaneous recovery; hence bleeding from such sources is naturally more severe, and the expelled material, moreover, contains an abundance of mucus, pus and pieces of tissue, in contradistinction to such innocent causes as hemorrhoids, polyps, procidentia, etc., in which the blood will be found to be unmixed, and show no products of destruction. It

may be accepted, then, in a general way, that mixed blood points toward serious conditions, though the converse of the proposition does not invariably hold true, for unmixed blood does not necessarily predicate benign lesions.

When there is any pathological condition of the bowel which has a tendency to bleed, any increase in the intra-abdominal pressure, due to straining, vomiting or defecation, may initiate it; however, the sudden appearance of a large hemorrhage, without any previous history of rectal disturbance, and independent of any bowel movement, is quite characteristic of some cases of carcinoma of the rectum. One occasionally obtains a history of a similar onset in hemorrhoids or polyp, but close questioning will nearly always reveal a distinct interval of rectal symptoms preceding the hemorrhage.

PERVERTED function of the bowel and any coexisting bleeding have a definite relation to each other. When there is persistent constipation, the force and straining required to expel the intestinal contents are liable to cause injury to the mucous membrane, aside from any medical or mechanical means used to secure an evacuation; in an impaction the same factors operate with the further addition of a possible necrosis due to pressure of the hard, dry, fecal masses on a delicate mucous membrane. When the stools are abnormally frequent they are likely to contain blood from the lesion which causes the diarrhea, if not from the straining and tenesmus set up by the discharges.

Zobel states that bleeding from gastric and duodenal ulcers and cancers is the usual cause of stools having a tarry appearance. It may also follow severe hemorrhages from the nares, lungs, ruptured varicose esophageal veins or typhoid ulcerations. Portal obstruction from any cause, but particularly so from cirrhosis or cancer of the liver, acute yellow atrophy of the liver, purpura hemorrhagica or Henoch's purpura, hemophilia, leukemia, aneurism, thrombosis of the superior mesenteric artery, and scurvy also may be causes.

IN passing from the subject of tarry stools it may be said that they are not seen in carcinoma of the colon, as pro-

fuse hemorrhage seldom arises from such a growth.

When there is profuse bleeding into and from the rectal cavity, it is generally from an ulcerating cancer of the sigmoid or the rectum. The discharge is then fluid, dark colored, contains clots, and is mixed with tissue debris and feces.

We will pass over rapidly an enumeration of other lesions and diseases in which there is bleeding from the rectum, in varying amounts and color, either free or mixed with the stools, but with which again the internist is mostly concerned—such as yellow fever, septicemia, pyemia, pernicious malarial fever, dengue, typhoid fever, jaundice, abdominal injuries, intestinal hemorrhages not due to tuberculous ulceration, such as may appear as an intercurrent event in pulmonary tuberculosis, sudden diarrheal attacks with bloody mucus which sometimes occur in exophthalmic goiter, the streaks of blood in the stools arising from the ingestion of arsenic and phosphorus, cancer of the large and small intestine, intestinal parasites, crises of bloody diarrhea accompanied by paroxysmal pain which form one of the most important symptoms betraying the presence of arterial sclerosis of the intestinal vessels—and confine ourselves only to the consideration of such causes of macroscopic bleeding as are localized in the anus, rectum and lower sigmoid, excluding therefrom hemorrhage during or following operation.

THE most common cause of rectal bleeding in those under ten years of age is the solitary polypoid adenoma, which is usually found on the posterior wall of the lower end of the rectum. It may be about the size of a cherry, and has frequently quite a long pedicle, which allows it to be brought out of the anus by the finger. It is often protruded during defecation and then appears as a small rounded reddish growth, at times with the surface bleeding, the result of abrasion by hardened feces.

Multiple polypi may exist. The bleeding then may be quite profuse, and the results most serious. Their presence can be diagnosed only by proctosigmoidoscopic examination.

Fissures of the anus are not uncommon

in children. Multiple fissures, the concomitant of early hereditary syphilis, bleed very easily during and between bowel movements.

In catarrhal proctitis and colitis of children, blood in the stools and sometimes quite profuse hemorrhages are present. There is one form of colitis—that due to *Endameba histolytica*—which is relatively rare in children, yet it does occur.

In intussusception blood is seen mixed with the diarrheal stools. Carmichael states that when blood and mucus are found in the rectum of an infant under one year, it never fails to indicate the presence of an intussusception.

FOREIGN bodies and prolapse also may cause rectal bleeding in the young. While malignancy is exceedingly rare in children, still it does occur, and must be thought of when endeavoring to locate the source of a hemorrhage.

Carson describes a very unusual cause for rectal hemorrhage. A boy of eleven three days previous to admission had a severe hemorrhage from the rectum unaccompanied by pain or other symptoms. There was a tumor one inch in long diameter felt in connection with the sigmoid. The probable diagnosis of polypus was made. At operation the sigmoid was

found bound down by a broad firm adhesion fixing the mesosigmoid to the pelvis, and at one point the adhesion extended as far as the gut, where it caused an acute kink. The lumen of the gut was easily restored by separating the adhesion. The cause of the adhesion was obscure. The operator considered that the hemorrhage was due to a kinking of the sigmoid, causing acute hyperemia of a portion of the lining mucous membrane of the gut. There was no further bleeding after operation.

Another very peculiar case of hemorrhage from the rectum is reported by Calkins. He describes a case of repeated miscarriages, associated with hemorrhage from the rectum, which he was able to arrest and bring to term by applications of silver nitrate to the os uteri, which was pictured as being very turgid in appearance, and giving rise to such intense hyperemia of the adjacent mucous membrane of the rectum that a considerable hemorrhage from the rectum had been brought on in the course of several different pregnancies.

I think that with the mention of chronic nephritis, Meckel's diverticulum and diverticula in general, and vicarious menstruation, the list is reasonably complete.

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LEXINGTON AVENUE.



HYPEREMESIS

—Concluded from page 221

quired in one of the 57, we consider that our treatment was successful in only 98

plus per cent of the cases, and failed in 1.9 per cent. This case in which the failure occurred, incidentally, was one of twin pregnancy.

85 PIERREPONT STREET.

CONTEMPORARY PROGRESS

Osseous Affections of the Maxillary Sinus

E. J. COLLINS (*Journal of Laryngology and Otology*, 54:121, March 1939) discusses conditions that affect the bony wall of the maxillary sinus other than osteomyelitis. The

maxillary sinus may be involved in Paget's disease of the skull;

in such cases the sinus walls are very much thickened with resulting diminution of the lumen. In such conditions as acromegaly and von Recklinghausen's disease of bone, the maxillary sinus may be involved as a part of the bones of the skull, but this is of rare occurrence. Various forms of chronic osteitis involve the bony wall of the maxillary sinus; these various forms may be differentiated clinically, but there is no very exact pathological differentiation. These types of chronic osteitis include: Creeping periostitis; circumscribed osteitis; localized osteitis; and obliterative sinusitis. In creeping periostitis, there is "exuberance" of the subperiosteal bony deposits often resulting in marked deformity. In circumscribed osteitis, a localized swelling may involve the sinus wall on one or both sides; the outer surface of the swelling is smooth, but the diseased bone is more vascular than normal and deep red in color; in one case seen by the author this lesion developed after an ethmoid operation. In most cases of localized osteitis reported dental suppuration was present. The so-called "obliterative sinusitis" is a proliferative osteitis developing in the sinus wall "in response to infection." Skillern in 1936 described this condition in the frontal sinus, and regarded it as "a protective mechanism to prevent the dispersion of the infection." The author

has seen a similar case involving the maxillary sinus wall after an antrum operation for chronic infection. Tumors and cysts may involve the bony walls of the maxillary sinus. The author distinguishes those that are antral in origin from those that are dental in origin.

The tumors that are antral in origin include osteoma; tumors undergoing secondary ossification, chiefly fibroma and hemangioma, and malignant neoplasms. The author notes that osteomas occur

less frequently in the walls of the maxillary sinus than in the walls of the frontal sinus, but are much more easily removed; he reports 2 illustrative cases. He also reports 2 cases of hemangioma of the maxillary sinus undergoing ossification; one was treated by radium; in the other case the tumor was successfully removed. A case of malignant tumor of the maxillary sinus is reported which was thought to be osteosarcoma, but which showed no favorable response to x-ray treatment; the author believes it was more probably of the nature of a round cell carcinoma that invaded the bone after originating on the mucous membrane lining the sinus; no biopsy specimen was taken. The tumors of the maxillary sinus wall that are dental in origin are dental cysts, dentigerous cysts and adamantinomas. Many of these cases come under the care of the rhinologist when the wall of the sinus is invaded.

COMMENT

This timely article proves very clearly that various pathologies of the maxillary bone may occur which may or may not be of serious import. Many of them are the result of dental infections. Others are the aftermath of various local pathologies and others are of the nature of a creeping periostitis which is a protective process of nature. Of course the author also includes malignant conditions. Fortunately, many maxillary affections are not frequently of serious import.

A timely warning may be mentioned here. A painstaking clinical examination must always be made and x-ray examination should be interpreted only in connection with these findings. In other words, serious prognostications and operative procedures should be suggested if conditions warrant and not otherwise.

H.H.

Irritation of the Throat From Cigarette Smoking

H. C. BALLENGER (*Archives of Otolaryngology*, 29:115, Jan. 1939) reports a study of the effects of cigaret smoking on the throat in 102 subjects who had been accustomed to smoke an average of about twenty cigarettes a day who continued to smoke the same number during the tests. For the tests three lots of cigarettes were made from the same batch of tobacco and by the same manufacturer; in one lot diethylene glycol was used as the hygroscopic agent, in the second lot glycerine was used as the hygroscopic agent, and in the third lot no hygroscopic agent was employed. In the first period of the test, cigarettes from one of the three lots were issued to each smoker for one week, until each smoker had tried all three lots; he reported for examination at the end of each week. In the second period of the test, the smoker was given cigarettes from all three lots for a week and allowed to smoke them as he pleased, and report on subjective symptoms noted. In the first period of the test examination of the mucosa of the nose, throat and larynx was made by different examiners with special reference to changes in the secre-

tion, dryness, granulations, thickness and color. Of the 102 subjects, 75 were found to have no unfavorable change in the mucosa of the nose and throat. In the other subjects no significant difference was found in the effects of the different lots of cigarettes tested. The subjective symptoms most frequently noted were dryness or irritation of the throat and coughing, usually dry and worse in the morning; no definite difference in the effect of the various lots of cigarettes was noted by the subjects who reported these subjective symptoms. The author states that he is "unable to pick out a 'smoker's throat.'" The subjective sensation of dryness in the throat "does not seem to have an associated objective manifestation." The cough appears to be due to

the mucus secreted by the bronchial mucosa "in an effort to remove the non-absorbable constituents of the inspired smoke."

COMMENT

Considering the asinine advertisements of the cigarette manufacturers, we are glad to review a presentation of this kind. There are billions of cigarettes smoked every year and the honest physician can seldom say that a moderate amount of smoking does any harm, provided the individual is not susceptible to tobacco. Certainly the type of hygroscopic agent used

or the "toasting" of the cigarette makes little difference.

A number of years ago we were approached for an opinion on the harmfulness of cigarette smoking. Off the record we were willing to say that it was surprising how few people consulted doctors because of any harmful effect, local or otherwise. Once we were told there was a "cigarette throat", a "cigarette cough". Then we were surprised to find that many patients with bad looking

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throats and severe coughs didn't smoke. And perhaps the number of nose and throat specialists who smoke cigarettes are a living example of how little they are afraid of the rank weed.

H.H.

Air-Borne Droplet Infection

H. C. ROSENBERGER (*Archives of Otolaryngology*, 29:314, Feb. 1939) reports a study of the possibility of air-borne infection in cases of acute and chronic nasopharyngitis, sinusitis and catarrhal tubotympanitis, acute tracheitis and laryngitis, chronic suppurative otitis media, nasal allergy and polyp and laryngeal cancer. With each patient tested, one Petri dish containing blood agar was placed on a shelf about 3 feet from the patient, but not in a line with particles that might be ejected from the nose and throat; another Petri dish was opened and the culture medium sprayed with the atomizer which next was used in spraying the patient's nasal passages; this dish was then closed; a third test was made by atomizing through one nasal passage and catching the return flow in a Petri dish which was held by an assistant six inches in front of the patient's face, so as to be exposed to the full force of the escaping vapor. The greatest number of positive cultures in these tests were not obtained from patients with acute conditions, but from those with chronic conditions, particularly chronic nasopharyngitis, chronic otitis media and laryngeal cancer. The reason for this "apparent discrepancy" may be the flushing action of the excessive secretion in acute inflammatory conditions, and also the edema of the mucosa. *Staphylococcus albus* was the organism found in all positive cultures; other organisms were found only exceptionally. The author is of the opinion that his findings clearly demonstrate that "the clinical procedure of nasal atomization is capable of instituting air-borne infection which causes a special hazard not only to the health of the otolaryngologist but also of the unsuspecting patient who breathes a previously contaminated atmosphere."

COMMENT

When it comes to chronic conditions of the nose and throat we are agreed that ex-

periments of this kind are very interesting but they can hardly account for the number of people who suffer from so-called chronic affections of the nose, throat and ear. We have followed these cases for many years. As long as people will lead sedentary lives, as long as they will live in dry, steam-heated apartments, as long as they will remain constipated, so surely will they lower the resistance of the mucosa of the upper respiratory tract. Of course, certain local treatments are most necessary and we must eliminate definite local etiological factors which often are of serious import. Infection is always present and the type of infection may be far more serious than the author states.

H.H.

Ionization for the Control of Severe Hypertensive Epistaxis

A. L. BECK (*Laryngoscope*, 49:113, Feb. 1939) finds that it is often difficult to control the epistaxis that is due to cardiovascular disease and hypertension. He has found that ionization by the same method as that employed for the treatment of vasomotor rhinitis and hay fever is very effective. The packing that has been placed in the nose to control bleeding is removed a little at a time, and cocaine and adrenalin solution applied topically as the removal of the packing "affords space." When only one side is involved, the opposite side of the septum is also anesthetized. Then the ionizing pack and electrode are introduced and the current applied; a current of 10 milliamperes for ten minutes produces "a good surface membrane." The after-treatment is one of "deliberate noninterference" until the membrane has come away; sedatives or narcotics are usually given for the first twelve to twenty-four hours. In the 3 cases treated by this method, bleeding was immediately controlled, and there has been no recurrence, although the first patient was treated nearly three years ago. The procedure could be repeated if necessary.

COMMENT

This new suggested method of treatment may possess a great deal of value, particularly to those specialists who have an open mind toward zinc ionization. Frequently one sees patients over fifty years of age who have repeated nasal hemorrhages due to a number of dilated veins on the septum which break open and bleed profusely. Constant cauteri-

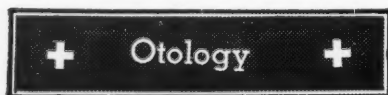
zation may do more harm than good and many times the serious bleeding comes from high up in the nose, at points difficult to reach. One knows that ionization changes the character of the mucosa, chemically or otherwise, and it is altogether possible that a treatment of this kind may bring about a permanent cure. H.H.

Reduction of Postoperative Pain After Tonsillectomy with Vitamin B₁ and C

M. BAER (*Monatsschrift für Ohrenheilkunde und Laryngo-Rhinologie*, 73:58, Jan. 1939) notes that the pain immediately following tonsillectomy is chiefly of local origin due to the exposure and irritation of nerve endings in the operative wound; and the local application of analgesics is indicated. The persistence of pain, however, may be due to more general factors in which vitamin deficiency appears to play a role. The author has found that beginning with the second day the administration of a vitamin B₁ preparation is of definite value in relieving pain and improving the patient's general condition; the combination of vitamin C with B₁ enhances the effect of the latter. The vitamins are given by injection in order to avoid the local irritation of medication by mouth. Sometimes a single injection is sufficient to relieve the pain; the author has never found more than five injections necessary in the 50 cases that he has treated.

COMMENT

We have had so many suggestions for reduction of pain after tonsillectomy that it is questionable whether any specific medication is necessary. In the majority of cases, especially in adults, if the operation has been properly performed, the amount of pain is negligible. We realize that vitamin B₁ relieves irritation in nerves and organs but very possibly local analgesics will give as much relief. H.H.



Otitis Media Complicating Scarlet Fever, and Loss of Hearing from the Disease

H. J. WILLIAMS (*Archives of Oto-*

laryngology, 29:82, Jan. 1939) reports that of 15,140 patients with scarlet fever treated at the Philadelphia Hospital for Contagious Diseases in 1934 to 1937, 1,300 or 8.6 per cent developed acute suppurative otitis media; approximately one-third of these patients had bilateral involvement. In 115 cases mastoiditis developed requiring surgical intervention. The incidence of mastoiditis was only 0.3 per cent. greater in those cases in which the tympanic membrane ruptured spontaneously than in those in which incision of the membrane was done before rupture. There were 10 deaths in the 115 cases with mastoiditis—a mortality of 10, or 8.7 per cent. A study of the time of onset of the otitis media in these cases shows that this complication may develop at any time from the first day of the acute symptoms of scarlet fever to the last day of convalescence. In those cases in which the otitis occurred with the initial symptoms it was due to extension of the infection to the middle ear; in those in which it occurred later it developed "as a result of infection in the sinuses." One hundred and four patients who had had scarlet fever one to four years previously returned to the hospital for testing of the hearing; none of these patients were under ten years of age. In 56 patients who had shown no symptoms of ear involvement during their attack of scarlet fever, the average loss of hearing was 7.9 per cent. in those who had had tonsils and adenoids removed before the attack of scarlet fever, 6.7 per cent. in those whose tonsils had not been removed, and 7.5 per cent. in 12 patients with a history of some form of sinusitis. In 15 patients who had had earache but no aural discharge during scarlet fever, the average loss of hearing was 5 per cent. in those who had had tonsils and adenoids removed, 9.2 per cent. in those who had not had tonsils removed, 5.6 per cent. in those with a history of sinusitis. Twenty-four patients had had discharging ears during the attack of scarlet fever; in this group the average loss of hearing was 10.5 per cent. in those who had had tonsils and adenoids removed, 10.2 per cent. in those who had not had the tonsils removed, 14 per cent. in those with a history of some form of sinusitis.

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There were 9 patients who had had mastoidectomy done during scarlet fever; the tonsils had been removed prior to the attack of scarlet fever in all these patients; one gave a history of sinusitis; the average loss of hearing was 9.9 per cent. From this study the author concludes that the loss of hearing is greatest after scarlet fever in those patients who have discharging ears during the attack; removal of tonsils has little effect on the loss of hearing; and a history of sinusitis has little effect except when associated with otitis media.

COMMENT

We have been taught for years that a middle ear infection is often associated with scarlet fever. But if these conditions are properly taken care of at the time, one need not be apprehensive of serious results. However, one should not be concerned with the acute conditions as such as much as with the possible defect in hearing which could be corrected at the time but for which little can be done later on. We have constantly urged that any child having scarlet fever and an ear affection, no matter how slight, should have the ears examined at frequent intervals after he has left the hospital and surely audiometric determinations should be made. If this were done, we are sure many defects in hearing could be discovered and correctional measures instituted which would eliminate the possibility of severe deafness later on in life. H.H.

Intranasal Administration of Estrogenic Hormones In Constitutional Deafness

H. MORTIMER and his associates at Montreal (*Canadian Medical Association Journal*, 40:17, Jan. 1939) have used intranasal administration of estrogenic hormone in the treatment of atrophic rhinitis and ozena. In one patient with atrophic rhinitis who also suffered from constitutional deafness, a definite improvement in hearing and relief of tinnitus was noted during treatment. A study of the cranial skiagrams in 70 cases of constitutional deafness showed evidence of "cranial dysplasia" similar to that found in atrophic rhinitis, which is regarded as indicating pituitary dysfunction. In 250 patients with atrophic rhinitis or constitutional deafness, there were 42 cases in which both conditions were present; 30 of these 42 patients were

females whose average age was twenty-seven years. Fifty-five patients with constitutional deafness, mostly diagnosed as otosclerosis or nerve deafness, have been treated by daily nasal insufflation of 1 c.c. of oil containing 1000 international units of estrin. Thirty-nine of these patients were females and 16 males. Most of the patients have been treated for three to six months, some for a longer period. Audiometer tests show on the average both the males and the females show slight improvement in hearing under this treatment, while untreated controls show slight deterioration in hearing in the same period. In certain individuals the hearing was improved to a greater degree than the average improvement for the entire treated group, 11 of the female patients also showed marked relief of tinnitus.

COMMENT

A few months ago we made a statement about estrogenic hormones to which exception was made by one of the pharmaceutical houses. We certainly do not wish to enter into any controversy and hope that whether the hormone is given in oil or as a special manufactured spray such as amniotin, it will be of the material benefit stated. That there is a definite relationship between atrophic conditions, deafness and tinnitus remains to be seen. H.H.

Chemotherapy in Meningitis Secondary To Ear and Sinus Infections

E. APPELBAUM (*Laryngoscope*, 49: 30, Jan. 1939) reports the experience of the Meningitis Division of the New York City Health Department with the treatment of meningitis secondary to ear and sinus infection (chiefly otogenic) with sulfanilamide and neoprontosil. At first a combination of sulfanilamide by mouth and neoprontosil by intramuscular injection was employed, occasionally supplemented by an 0.8 per cent sulfanilamide solution intraspinally; more recently neoprontosil powder by mouth, with or without neoprontosil solution intramuscularly, has been employed as a rule; sometimes the neoprontosil solution was also given intraspinally. But the author is of the opinion that the intraspinal administration of sulfanilamide or neoprontosil is rarely indicated; most of the cases that recovered were

not treated intraspinally. The dosage of neoprontosil by mouth has been 5 to 15 grains every four hours in recent cases. In all forms of spinal meningitis, there must be adequate drainage of the sub-arachnoid space, preferably by repeated lumbar punctures, or cisternal puncture if block develops. The most striking results with sulfanilamide have been obtained in hemolytic streptococcal meningitis secondary to aural (or sinus) infection. The author reports 35 cases of this type treated with 28 recoveries and 7 deaths; previously the mortality in hemolytic streptococcal meningitis was approximately 95 per cent. Results in pneumococcal meningitis were much less satisfactory, for in 42 cases of this type there were but 7 recoveries; the former mortality in pneumococcal meningitis has been 100 per cent., however, in the author's experience. The toxicity of neoprontosil has been found to be low; nausea and vomiting, when the drug is given by mouth, sometimes necessitate temporary discontinuance of the treatment; possibility of serious toxic reactions must always be taken into consideration.

COMMENT

With all the literature on sulfanilamide and other preparations which are variants of it, one is delighted with the thought that we have a chemical which might be placed in the "miracle" class. But the harm that may come from indiscriminate usage by medical men who do not know how to safeguard the patient may make many men fearful about using it. However, there is no doubt that many patients suffering from meningitis recover today who were considered hopelessly ill a year or so ago.

H.H.

Middle Ear Tuberculosis

R. W. MÜLLER (*Klinische Wochenschrift*, 18:127, Jan. 28, 1939) notes that the fact that middle ear tuberculosis may be a primary disease is well recognized; this occurs most frequently in infancy and the clinical picture is typical. Middle ear tuberculosis secondary to other tuberculous foci in the body is not so well known nor so easily recognized. The infection may reach the middle ear through the blood stream or by extension through the Eustachian tube. With either route of infection there may be other

active foci of infection in the body, or the middle ear lesion may be the only active focus demonstrable. Tuberculous infection may also reach the middle ear by way of the lymphatics from infected lymph glands. This form can be distinguished from primary middle ear tuberculosis with secondary involvement of the neighboring glands chiefly by the history of the case. The possibility of middle ear tuberculosis must be taken into consideration in cases of pulmonary tuberculosis with cavity formation, or in cases in which there are other tuberculous foci of hematogenous origin. With middle ear tuberculosis of hematogenous origin either the mucous membrane or the bone may be primarily involved. The diagnosis of middle ear tuberculosis depends primarily upon the demonstration of the bacilli or of specific tuberculous lesions in the tissues. An improvement in the technic for demonstrating the tubercle bacilli in the middle ear discharge is needed.

COMMENT

Fortunately we do not see many cases of tuberculosis of the middle ear in this country in spite of the fact that there seem to be many cases in Germany. Primary tuberculosis is extremely unusual but comment must be made on those cases associated with infection elsewhere. In spite of the fact that one may not suspect such an association with tuberculosis elsewhere, a continuous discharge from the ear and particularly multiple perforations of the drum may make one feel sure of the condition regardless of whether tubercle bacilli are found in the discharge or not.

H.H.

Actinomycosis of the Ear

O. C. RISCH (*Archives of Otolaryngology*, 29:235, Feb. 1939) reports a case of acute mastoiditis secondary to middle ear infection and complicated by sinus thrombosis, in which an aerobic acid-fast type of *Actinomyces* was isolated from the blood stream. Potassium iodide was given in increasing doses, after several transfusions had been given following operation. The patient made a good recovery. In a review of the literature, the author finds 31 cases of actinomycosis of the ear reported, but the middle ear was involved in only 15 of the cases, the

infection being confined to the external auditory canal and the pinna in the other 16 cases. Infection of the middle ear may result from spread of the organisms from the nasopharynx through the Eustachian tube or by extension from the external auditory canal. No evidence was found that the actinomycotic infection reaches the middle ear by way of the blood stream. Actinomycotic infection of the middle ear is evidently rare, but the possibility of its occurrence must not be entirely overlooked.

COMMENT

This is an extremely rare condition. The article is timely and points out the fact that in baffling cases anaerobic cultures are most necessary. H.H.

+ Gynecology +

Influence and Effects of Toxemias Upon Menstruation

L. E. LEDOUX (*New Orleans Medical and Surgical Journal*, 91:463, March 1939) has found that toxemias associated with acute infectious diseases affect menstruation adversely. The toxins of such diseases may have a stimulative or a depressive effect on the ovaries according to the phase of the cycle in which they become active. Aside from gonorrhea and syphilis, which are generally recognized as having a destructive effect upon the ovaries, the author has observed menstrual disturbances in the following acute conditions: Acute intestinal toxemia; if severe acute toxemia of this type develops in the premenstrual period it may suppress the period, but if it develops during the follicular phase, may "precipitate" the menstrual flow. The author has records of cases in which acute intestinal toxemia was "the provoking factor" in the production of ovarian hemorrhage from premature or forced rupture of the follicle. Acute suppurative otitis media and mastoiditis may cause menstrual disturbances, which are accentuated if operation is necessary. Acute suppurative appendicitis may cause injury to the ovaries and disturbance of the menstrual cycle; in 2 cases

operated by the author, ovarian hemorrhages due to premature rupture of the follicle were found at operation. Influenza and pneumonia may also cause menstrual disturbances. The amenorrhea and oligomenorrhea so frequently noted in tuberculosis, the author is convinced, is due to the action of "the tuberculo-toxin" upon the ovarian hormone and the follicle. Patients may require treatment for the menstrual disturbances even after the toxemia has subsided.

COMMENT

It has been the experience of all of us that the toxemia associated with acute infectious diseases has an adverse influence upon menstruation. The modus operandi is not quite clear, although during the course of certain acute infections the calcium content of the blood is lowered beyond physiological limits and this may be a contributory cause. Certainly in active pulmonary tuberculosis there is frequently an interference with normal menstruation. Likewise menstruation often has a deleterious effect upon the tuberculosis. We have seen "yards" of temperature sheets in which a distinct rise in temperature ($\frac{1}{2}$ to 1 or more degrees) with each menstrual period could easily be noted. These menstrual disturbances are apt to require treatment after the acute infectious toxemia has subsided. The methods employed, of course, depend largely on the endocrine dyscrasia present and/or the residual pelvic pathology persisting. Let us have more such reports! H.B.M.

Uterosalingography With Skiodan Acacia

R. H. McCLELLAN, PAUL TITUS, R. E. TAFEL and E. C. LORY (*American Journal of Obstetrics and Gynecology*, 37:495, March 1939) state that their group at the St. Margaret Memorial Hospital, Pittsburgh, Pa., have previously reported studies on skiodan acacia as an opaque medium for uterosalingography. They found skiodan to be non-irritating to the uterus and rapidly eliminated from the body. In more recent experiments they have made a special study of the effect of the acacia used as a vehicle. In experiments on rabbits they found that acacia injected in the amounts used in uterosalingography does not irritate the internal genitalia or the peritoneum. It is rapidly taken up from the peritoneum, appearing in the blood stream within three hours after its in-

jection; it has almost disappeared from the blood in seventy-two hours. It could not be proved that acacia is excreted in the urine; experiments by others have shown that acacia is excreted in the bile. Pathological studies of the livers of animals made at varying periods up to thirty-two days after injection of large amounts of acacia (more than ten times the amount used in human uterosalpingography) showed no liver damage. From these studies the authors conclude that skiodan-acacia in the amounts used in uterosalpingography has no harmful effects and is to be preferred to the iodized oils previously used as opaque media.

A. M. HELLMAN, J. Q. JONAS and J. A. ROSEN (*American Journal of Obstetrics and Gynecology*, 37:107, Jan. 1939) report the use of skiodan-acacia in uterosalpingography, as recommended by Titus, Tafel, McClellan and their associates. In employing uterosalpingography Hellman and his associates use this method only after all other gynecological procedures are completed; it is not used in the presence of acute or subacute infection of the genital tract, "real or suspected," in the presence of a bloody or purulent cervical discharge, or when the temperature is above normal for any cause. This procedure is best carried out about a week after the menstrual flow has ceased. The skiodan-acacia solution is warmed to room temperature and injected with a Luer-syringe through a uterine cannula. When about 5 or 6 c.c. have been injected "with slow, gentle, steady pressure," the patient complains of some suprapubic cramp-like pains; after a few minutes, more solution is injected until a definite resistance is felt to the plunger; the first x-ray picture is then taken. After waiting three minutes another 5 c.c. of the opaque medium can be injected, and another x-ray picture made. The syringe and cannula are then withdrawn. Roentgenograms made thirty to fifty minutes after the injection show none of the opaque solution remaining in the peritoneal cavity. In the 24 cases in which this method was used, there were no untoward results or complications; in 3 cases with quiescent pelvic inflammatory disease, there was no flare-up of the lesion. While the roent-

genograms were not as "brilliant" as those obtained in some of these cases with lipiodol, they were sufficiently clear in all cases for satisfactory clinical interpretation; and the authors are of the opinion that refinement in the x-ray technique will give clearer shadows.

COMMENT

Uterosalpingography has come to stay. Therefore, since up to the present we have not had a really good non-irritating opaque solution for use in this type of work, it is gratifying to know that a reliable group has discovered such a medium. The skiodan-acacia mixture is certainly preferable to the iodized oils and is perfectly safe for the patient.

Hellman and his associates report the use of skiodan-acacia solution in 24 cases with no untoward results or complications.

Your commentator has had no personal experience with this particular radio-opaque solution but opinions formed from these and other reports will certainly incline him to switch to the skiodan-acacia solution for all future uterosalpingographs. H.B.M.

Ovarian Sterilization For Breast Cancer

G. B. TAYLOR (*Surgery, Gynecology and Obstetrics*, 68:452, Feb. 15, 1939) reports the treatment of 50 cases of breast cancer by x-ray irradiation of the ovaries to establish an artificial menopause. The patients showed marked variation in the extent and stage of the malignant disease. Many were advanced, untreated cases; others were operable except for x-ray evidence of early metastatic involvement; others represented recurrent disease, "locally or metastatically," after radical or "subradical" operation. Twenty of the 50 patients showed "possible or probable benefit" from the treatment; in 9 there was definite regression of bone lesions, in some of these cases complete regression; 6 patients with local or supraclavicular recurrence showed marked improvement, but these cases also had the benefit of intensive local x-ray therapy. One patient with pleural effusion and another with ascites "were relieved of the necessity of frequent paracenteses"; in one case there was "apparent regression" of pulmonary metastases; in 2 patients with widespread involvement, the progress of the disease was definitely arrested, in one

patient for about two years, in the other for several months. Many of these patients also showed a definite improvement in their general condition. Of the entire group of 50 cases, 42 have died, one cannot be traced, and 7 are living without evident active progress of the disease; these cases were treated between April 1935 and May 1937, and the report made in October 1937. In another group of 47 cases of operable carcinoma of the breast in young women, x-ray radiation of the ovaries was done prophylactically after radical operation, but the value of the procedure could not be definitely demonstrated in these cases. In cases of recurrent and inoperable carcinoma of the breast, however, the author concludes that the establishment of artificial menopause by irradiation of the ovaries "may be expected to result in temporary regressions or improvement in about one-third of the cases"; the most striking benefit is apparently obtained in cases with bone metastases.

COMMENT

Any procedure that will help in the "arrest" of breast cancer is commendable. Apparently the Boston group have given ovarian sterilization for breast cancer sufficient trial to begin to evaluate the procedure. While their results are not any too promising, we hope they will continue this work and make a later report. We must encourage any research for the betterment of cancer therapy.
H.B.M.

Treatment of Pelvic Inflammation By the Iontophoresis of a Choline Compound

A. JACOBY (*American Journal of Obstetrics and Gynecology*, 37:272, Feb. 1939) reports the treatment of 50 patients with pelvic inflammatory conditions by iontophoresis of acetyl-beta-methylcholine-chloride. The method has been modified somewhat since it was first described by the author in January, 1938. A 0.5 per cent. solution of the choline compound, instead of a 1 per cent. solution, is employed. The vaginal electrode consists of a thin cylindrical shaft with a thin bar at the distal end. Gauze soaked in the solution is placed over this bar and introduced into one side of the posterior vaginal fornix; pressure on the other end of the electrode swings

the bar across the vaginal fornix and the ends of the gauze are then "tucked into" the vaginal fornices around the bar of the electrode. The positive pole of the galvanic current is attached to the vaginal electrode; the negative electrode in a large well-moistened felt pad placed on the lower abdomen; 15 milliamperes of current are applied for a treatment of twenty minutes' duration. All of the 50 patients treated showed a pelvic mass or thickening; 40 had definite inflammatory lesions in one or both adnexa, with or without additional pathological conditions. Of these 20 had adnexal inflammation only; in 17 of these 20 cases, the inflammatory mass disappeared and symptoms were entirely relieved by the treatment. In the other 20 cases, the inflammatory exudate disappeared but the associated pathological condition was not affected; 8 of these patients were subsequently operated upon, and no inflammatory exudate found. In 10 of the 50 cases, there was no satisfactory relief after adequate periods of treatment; operation was done in 3 of these patients, and the pelvic mass found to be non-inflammatory; in the other 7 patients the clinical diagnosis indicated a non-inflammatory condition. The author concludes that the method of iontophoresis described is an effective method of treatment in pelvic inflammatory conditions, and also of value for the differential diagnosis of pelvic masses.



Obstetrics



The Vomiting of Pregnancy as a Sign of Vitamin C Deficiency

T. DOXIADES of Athens, Greece (*Deutsche medizinische Wochenschrift*, 65:217, Feb. 10, 1939) notes that various investigators have found evidence of an increased demand of the maternal organism for vitamin C during pregnancy. In the last two years he has treated 14 cases of excessive vomiting of pregnancy with vitamin C given at first by intramuscular or intravenous injection (ascorbic acid). In most cases 0.1 gm. ascorbic acid given intravenously for six to eight days completely relieved the

vomiting. Following this vitamin C was given by mouth in tablet form as a supplement to the diet. In a few cases larger doses were necessary. In one case in which a previous pregnancy had been interrupted because of uncontrollable vomiting, as much as 1 gm. daily was given on two consecutive days, before symptoms were controlled. There is no danger of ill effects from even large doses of vitamin C, as any excess of this vitamin is promptly excreted in the urine.

The Diagonal Conjugate Versus X-ray Pelvimetry

A. L. DIPPEL (*Surgery, Gynecology and Obstetrics*, 37:642, March 1939) reports a study of 115 cases in which both the diagonal conjugate and the obstetrical conjugate were measured, the latter by means of lateral stereoscopic films by the Hodges method. In 61 of these women the diagonal conjugate was greater than 11.5 cm.; in 15 of these patients the promontory was palpated; in the remainder it could not be reached, "but was measured as greater than 11.5 cm." In these 61 cases the obstetrical conjugate was found to range from 10 cm. to 13.72 cm.; in no case was it below 10 cm., thus there was no anteroposterior contraction of the pelvis "of significant degree." In 54 of the cases, the diagonal conjugate measurement was 11.5 cm. or less; comparing these measurements with those of the obstetric conjugate in these cases it was found that the difference between the two varied from 0.2 cm. to more than 2.0 cm. In 27 cases this difference ranged between 1 and 1.6 cm., in 15 it was less than 1 cm., and in 11 greater than 1.6 cm. Thus a diagonal conjugate measurement of 10.5 cm. may be associated with an obstetrical conjugate of 10.2 cm. in one case and in another with an obstetrical conjugate of 8.2 cm. The author concludes, therefore, that when the diagonal conjugate measures more than 11.5 cm., this rules out anteroposterior contraction of the pelvis and routine x-ray pelvimetry is not necessary in such patients; this group, he finds, includes "more than 90 per cent. of all white women." When the diagonal conjugate is 11.5 cm. or less, and certainly when it is under 11 cm., this measurement does not give suf-

ficiently exact information in regard to the degree of anteroposterior contraction and the patient "should be given the benefit of that precision in pelvimetry which only x-ray methods can yield."

COMMENT

X-ray pelvimetry is here to stay. No first class obstetrician or obstetric service can "taboo" this method of pelvimetry any longer. "Personal" pelvimetry is not accurate and therefore cannot always be depended upon. Where there is any question of contraction, particularly in the antero-posterior diameter, the patient should be given the benefit of the accuracy which only the x-ray can give. When this is made routine for every physician doing obstetrics then we shall have a much lower morbidity and mortality rate for both babies and mothers.
H.B.M.

Blood Loss Following Delivery

A. M. REICH (*American Journal of Obstetrics and Gynecology*, 37:224, Feb. 1939) presents a study of the factors influencing blood loss in 1290 consecutive obstetric cases admitted to Bellevue Hospital, New York, from April 1936 to April 1937, in comparison with a later series of 1,445 consecutive deliveries. In the later series ergotrate was given intravenously immediately after placental delivery as a routine. In the first series the incidence of postpartum blood loss of 500 c.c. was 10.5 per cent., and of blood loss of 600 c.c. or over was 5.65 per cent. In the second series of cases the incidence of blood loss of 500 c.c. was 5.37 per cent. and of over 600 c.c. was 3.5 per cent. While hemorrhage from the site of the normally situated placenta due to imperfect contraction of the uterus is a frequent cause of excessive postpartum blood loss, in the second series of cases there were only 13 cases in which hemorrhage was associated with uterine atony (0.89 per cent.), while the percentage of "third stage hemorrhages" was not definitely reduced. An oxytocic, such as ergotrate, can be expected to be of value in the diminution of hemorrhage only when this is due to ineffective tone of the postpartum uterus. Third stage hemorrhages must be controlled by "proper procedures of management." The use of ergotrate in 2,500 cases has not caused any systemic reactions; it has proved superior to other oxytocics "in

the speed, completeness and duration of its action and has a definite place in the control of hemorrhage from the normally situated placental site."

COMMENT

Excessive blood loss following delivery is always "out of order." Any hemorrhage is alarming; followed by the onset of shock it becomes frightening. Therefore any method of controlling excessive postpartum blood loss is important. We can agree with everything the author has said and particularly with his conclusions regarding ergotrate. After testing out all these alkaloidal preparations we think ergotrate is the superior oxytocic. Use it; you will like it!

H.B.M.

Cesarean Section in the Woman's Hospital in the State of New York

R. L. BARRETT (*American Journal of Obstetrics and Gynecology*, 37:434, March 1939) reports a study of Cesarean sections done at the Woman's Hospital, New York, in the past fifteen years. In that period there were 20,127 delivered "in the viable period of pregnancy"; the uncorrected maternal mortality was 0.46 per cent. Approximately 4000 women in this series had some form of operative delivery other than low forceps; the maternal mortality rate in this group was 1.5 per cent. Cesarean section was done in 912 cases; the chief indication for this operation was an abnormal pelvis (401 cases); other important indications were: Cervical dystocia (235 cases); previous Cesarean section (191 cases); previous stillbirth and difficult delivery (190 cases); disproportion (146 cases); toxemia (102 cases). The maternal mortality rate for all Cesarean sections was 2.96 per cent.; the mortality rate for the 191 patients who had had a previous Cesarean section was 2.62 per cent. The most favorable age group for Cesarean section appeared to be between twenty and twenty-nine years of age, as in this group the maternal mortality was only 1.58 per cent. In the large group of women with intact membranes at the time of Cesarean section the death rate was below the average (2.41 per cent.), while in the group with rupture of the membranes before operation, the maternal death rate was nearly doubled (4.14 per cent.). In general the maternal death rate was lower in those cases in which an

elective Cesarean section was done without a trial of labor; this group includes many cases with the more serious antepartum complications; if such cases are excluded, the maternal death rate for elective Cesarean section is low—approximately 1 per cent. Low Cesarean section was done in 620 cases, the "classical" operation in 235 cases, the Latzko operation in 34 cases, the Porro operation in 37 cases and peritoneal exclusion in 6 cases. The maternal mortality rate for the low Cesarean section (2.10 per cent.) was less than half that for the classical operation (4.26 per cent.). In the fifteen year period studied there has been a definite diminution in the maternal mortality rate from Cesarean section; in general, the author's tabulation shows that there has been a tendency to a lower general mortality rate as the "incidence" of Cesarean section increased. This the author believes is due to the fact that Cesarean section is performed earlier in labor with avoidance of prolonged labor and maternal exhaustion, ruptured membranes and other complications. Another important factor is the more frequent use of blood transfusions and "other supportive measures"; all patients are treated for shock and "returned to a reasonably fair condition" before Cesarean section is done. The greatest problem is the management of "borderline" cases in which the indications for Cesarean section are not definite. If the membranes are intact and the woman is in good condition, a trial of labor or even a real test of labor is comparatively safe. In cases with ruptured membranes, slow cervical dilatation or rigid cervix and maladaptation of the head, "the finest of obstetric judgment is needed."

COMMENT

The abuse of Cesarean section in all parts of our country makes it obligatory that reports from specialized hospitals or services be published as an object lesson to those who would operate regardless of indications or the condition of the patient. Here as elsewhere in obstetrics a knowledge of primary principles goes a long way in knowing when to perform Cesarean section. The mortality rate goes up in direct proportion as the judgment of the operator is faulty. No surgeon—general or special—can pass proper judgment on whether or not a section is indicated.

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MEDICAL BOOK NEWS

* All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, N. Y.

Edited by Alfred E. Shipley, M.D., Dr. P.H.

Stop! Look! Listen!

PRECLINICAL MEDICINE. Preclinical States and Prevention of Disease. By Malford W. Thewlis, M.D. Baltimore, Williams & Wilkins Company, [c. 1939]. 230 pages. 8vo. Cloth, \$3.00.

Don't make the mistake of dismissing this book as just another document on preventive medicine, or on the other hand a demand—inexpedient to meet—that doctors display a prescience and preciosity in diagnosis that would be superhuman.

The author does ask us to reorient ourselves with respect to what he calls predis-ease periods or preclinical states. He seeks to show that it is increasingly practicable to go a step beyond the recognition of disease in its incipience and in many cases to anticipate and plot an individual's nosologic destiny, the doctor being thereby enabled to unlimber his preventive artillery before the invader starts the undeclared war that we call incipient disease.

The Greeks made a good beginning at this sort of thing, with their types and diatheses. It's just about time that we supplemented (streamlined) this ancient and perfectly respectable doctrine with a little modern relativity, so to speak. When one detects diabetes, one can at least attempt to draw the "horoscopes" of all the siblings. Here Dr. Sherlock Holmes, anticipatory diagnostician, has a clue which Dr. Watson will probably

miss. But this sort of thing is just a simple exercise, given as an elementary example, in the kindergarten grade of preclinical medicine. Not all of Dr. Thewlis' assignments are as easy as the

diabetes illustration. The doctor of the future will actually have to be diagnostically competent. And why should he not be? But this does not mean that he will be a kind of fortune teller or metaphysician.

Preclinical medicine ascertains in advance, or provisions, disease conditions which are likely to occur. It attacks disease before the symptom stage. It is several steps ahead of clinical medicine and considers meticulously tendencies, soils and conditioning periods. This is the proper time for diagnosis and treatment. The diagnostic technic is a synthesis of clues. This will be the direction of future progress. Looking backward, one can see

where many procedures now considered commonplace seemed visionary; so it will be with preclinical medicine, which is anything but routine checkups, and of which primary approach of the future to the medical problems of the individual Dr. Thewlis offers a "preview," as the movie folk say.

The impressionistic air about the author's treatment of some topics is due to the fact that little or no ground has been broken in such instances. Allow-



Classical Quotations

● I must say to you, as I've oft-times said already, that 'tis not my intention to stick stubbornly to my opinions, but as soon as people urge against them any reasonable objections, whereof I can form a just idea, I'll give mine up, and go over to the other side.

Antonj van Leeuwenhoek

Letter 81 to the Royal Society.

YOU may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the **MEDICAL TIMES**, 95 Nassau Street, New York, N. Y.

ance here must be made for the fact that the book is a pioneering job. Its defects in this sense are the defects of present-day medicine itself and no fault of Dr. Thewlis. But there is much here for everyday application now by intelligent, alert, conscientious and far-seeing practitioners (preclinicians), who we do not believe constitute a pitifully small group.

Dr. Thewlis seems to have the pioneer habit, or gift, for it was in 1919 that he brought out his *Geriatrics*. Today, with the increasing proportion of old people in the population, diseases of the aged as a specialty is coming into its own.

In the case of the small book now under discussion we find its genesis partly in the fact that the author practices in a district (Wakefield, Rhode Island) where he has acquired an intimate knowledge of families, much of this knowledge having been passed on to him from two uncles who had practiced in the same district for nearly seventy-five years.

ARTHUR C. JACOBSON.

Parsons Ophthalmology

DISEASES OF THE EYE. By Sir John H. Parsons, F.R.C.S. Ninth edition. New York, The Macmillan Company, [c. 1938]. 705 pages, illustrated. 8vo. Cloth, \$5.50.

The first edition of this work appeared in 1907. The arrangement of the present ninth edition is the same as in the other recent editions, namely, eight chapters, three appendices and a twenty page index. There are twenty-one plates and 360 text figures, all of which are excellent in character.

The author states that the new edition

has afforded opportunity for adding some details as to new drugs and new methods of treatment. Thus the book is up to date in these respects.

The arrangement of the text is similar to that usually employed; there are chapters on Anatomy and physiology, Examination of the Eye, Diseases of the Eye, Refraction, etc. Appendix II is on Therapeutic notes, with a list of drugs for various affections, methods of anesthesia, 7th nerve block, serum and vaccine treatment and protein therapy. Appendix III, Requirements of Candidates for Admission into the Public Services is interesting, but since it applies to the British Services it is not applicable in this country.

The constant demand for new editions of this manual of ophthalmology demonstrates its popularity, and the fact that it holds its own in the field with other books of similar size and character is not surprising when one realizes who wrote it.

E. CLIFFORD PLACE.

Maximow's Latest Histology

A TEXT BOOK OF HISTOLOGY. By Alexander A. Maximow and William Bloom. Third edition. Philadelphia, W. B. Saunders Company, [c. 1938]. 668 pages, illustrated. 4to. Cloth, \$7.00.

Again, as with the two previous editions, the authors have written an excellent reference book in histology. The subject matter is so linked with physiology and in some instances with pathology that it should be valuable and interesting to the student. The chapters on Endocrines and Nervous Tissue have been revised.

The volume should prove an asset to the student and to those who have occasion to refer to a histological work often.

NATHAN REIBSTEIN.

A New Edition of Brown's Oral Surgery

THE SURGERY OF ORAL AND FACIAL DISEASES AND MALFORMATIONS. Their Diagnosis and Treatment Including Plastic Surgical Reconstruction. By George Van Ingen Brown, M.D. Fourth edition. Philadelphia, Lea & Febiger, [c. 1938], 778 pages, illustrated. 8vo. Cloth, \$10.00.

This, the first revision of this estimable work since 1918, when it was published under the title *Oral Disease and Malformations*, is designed for the use of the

student of oral surgery as well as for the plastic and maxillofacial surgeon. Like all books of this firm the typography is clear and well set up, and the engravings well done. Additions to the text since the previous additions include articles on Blood Transfusion by Arthur A. Schaefer, M.D., on tuberculosis and syphilis by H. J. Farrell, M.D., and many revisions and corrections as well as additions to the chapters on plastic surgery.

The general plan of the book follows the original editions quite closely. A section on general surgical procedures introduces the work, followed by chapters on purely dental surgery. The transition to the medical aspects of the field is accomplished in a chapter on general infectious diseases, followed by a discussion of the diseases of the soft tissues of the mouth. The chapter on diseases of the nervous system affecting the mouth, contains some original material on tic douloureux and on herpes. The relation of diseases of the teeth to affections of the nervous system is discussed exhaustively. Diseases of the bone of the mouth, and of its glands, is followed by a discussion of tumors of this area.

The preceding outline covers the material to the beginning of the discussions of specific disease and treatment as related to the lips, tongue, nose etc., the treatment of cleft palate (which is not fully discussed—the reader being referred to Dorrance) and of the various traumatic injuries affecting the face.

The text is carefully indexed, and contains an interesting chronological table. It offers a reliable source of information on diagnosis for the general practitioner and an excellent operative guide for the plastic or maxillofacial surgeon.

LAWRENCE J. DUNN.

Bacteriology Briefed

AIDS TO BACTERIOLOGY. By William Partridge, F.I.C. Sixth edition revised by H. W. Scott-Wilson, B.M. Baltimore, William Wood & Company, [c. 1938]. 300 pages. 16mo. Cloth, \$1.50.

This is the sixth edition of this popular series. All of the sections have been brought up to date. To those who wish to refresh their knowledge of bacteriology this little volume should be very helpful.

MORRIS L. RAKIETEN.

Spinal Anesthesia Defended

SPINAL ANESTHESIA. By Louis H. Maxson, M.D. Philadelphia, J. B. Lippincott Company, [c. 1938]. 409 pages, illustrated. 8vo. Cloth, \$6.50.

A book on anesthesia by an anesthetist has a somewhat different viewpoint from one written by a surgeon, and surgeons have produced most of the books on spinal anesthesia. This author looks at the subject as a branch of the broader field of anesthesia in general, and discusses the relative merits of this method in comparison with other anesthesia.

So much has been written about spinal anesthesia during recent years, and so many different viewpoints have been presented that it seemed worth while to the author to survey the progress and to attempt a statement of the concept of this useful, but often misunderstood form of anesthesia. The sane view, he feels, is that in spinal anesthesia we have an additional aid to successful operation, but that its inherent dangers must be weighed against its advantages in any given case. His experience has furnished him with some well founded convictions, backed by ample clinical evidence.

On controversial points both sides of the argument are presented, together with the writer's conclusions and his reasons therefor. He has opinions of his own, but gives the opinions of others as well so that a person may take his choice and be guided by the majority opinion or by the choice of authority; there is nothing dogmatic in his attitude.

GEORGE W. TONG.

Keeping Young

WHY GROW OLD? A Guide-Book for the Man Who Seeks to Remain Physically and Mentally Young. By Frank S. Caprio, M.D. and Owsley Grant, M.D. Indianapolis, Maxwell Droke, Publisher, [c. 1937]. 204 pages. 8vo. Cloth, \$2.50.

This volume in large print is as delightful to read as it is instructive in its contents. The title *Why Grow Old* at first glance appears ambiguous. The emphasis is not on "Why" but on "Old." It contains so much one would like to quote, that space allows the selection of only a few quotations. Here is one: "Indeed, a rather good way to live to a ripe old age is to get yourself a chronic disease and nurse it assiduously." While this is applied to cases of diabetes, its

general applicability is readily appreciated. Here is another: "The secret of keeping young (at least one of the secrets) is to forever LEARN." What a wealth of truth this contains.

The book has a chapter on "Slow down but don't retire." The reading of this chapter is so full of common sense, so stimulating, so sound in its advice that it should be made compulsory reading by every man approaching his three score, plus.

The chapter "The truth about rejuvenation," after a discussion of the attempts made to achieve this result by physical means, ends by placing the emphasis on "spiritual rejuvenation." And finally the essence of the book is contained in the following quotation:

They have learned the secret of perpetual youth
Who have learned to remain children at heart.
Not to have this book in one's library
is depriving one's self of great pleasure
and wise advice.

SIMON R. BLATTEIS.

Popular Podiatry

OH, DOCTOR! MY FEET! By Dudley J. Morton, M.D. New York, D. Appleton-Century Company, [c. 1939]. 116 pages, illustrated. 12mo. Cloth, \$1.50.

The jacket is a splash. The book is one of a popular health series of Appleton. The subject presented tends to rather embarrass the rest of us because it appears all so simple, and one has been apt to consider the disabilities of the human foot rather complex and difficult. A long second metatarsal and that is about all there is to it. Just correct the weight bearing there and a few hot and cold douches and joy and happiness for the sufferer results. However, the forefoot is the part to which serious consideration is given, and other disabilities are given little or no thought, and it may be that it is the rest of the foot that gives the doctors the trouble.

The book is largely a conversation between two doctors; Dr. Nelson who has discovered the long second metatarsal and Dr. Harris who is very much surprised to learn about it. If it were not for the long conversations between these two gentlemen the subject matter could be reduced to a very few pages, and so not unlike a modern detective story. It

is hoped that the public will be greatly benefited by this semipopular book.

JA. C. RUSHMORE.

The Doctor Tells Stories

BODY MENDERS. By James Harpole. New York, Frederick A. Stokes Company, [c. 1939]. 296 pages. 8vo. Cloth, \$2.75.

This book is a second collection of short stories by the Harley Street surgeon writing under the name of James Harpole. As in his previous collection, printed in 1937 under the title, *Leaves From A Surgeon's Case-Book*, the author tells a number of stories dramatizing modern methods of the diagnosis and treatment of diseases. Not all these stories are related to surgical technique and procedures, and show an unusual knowledge on the part of the author, described as a specialist in surgery, of the various advances in modern medicine along other lines. He tells a dramatic story of a medical confrere who shows signs of a cerebro-spinal lues to bring up the description of the Wagner-Jauregg malarial treatment for this disease. He has another tale to tell us about sulphanilamide, another to bring in vitamin deficiency. Good yarns. These stories are written for the laity but the doctor who takes time off for other literature than his medical journals will get no little enjoyment from such a collection of short stories—and probably considerable scientific information.

JOSEPH RAPHAEL.

A New Dickinson's Birth Control

CONTROL OF CONCEPTION. By Robert L. Dickinson, M.D. Second edition. Baltimore, The Williams & Wilkins Company, [c. 1938]. 390 pages, illustrated. 8vo. Cloth, \$3.50.

This revision of a book first published in 1931 is part of the series issued by the National Committee on Maternal Health. As Dickinson says, his title is better than "Birth Control", which, however, is sanctioned by usage and may never be displaced. As a clinical medical manual this book is nothing if not complete. The text is lucid, packed full of Dickinson's inimitable statistics, highly informative, and cleverly illustrated in the author's well known style with myriads of his own drawings.

Much space is devoted to vaginal dia-

phragms, most popular control method in clinics. Though wary of intrauterine coils and springs, Dickinson does not condemn them unreservedly. The statistics of Latz are criticized. The author believes that "it is quite improbable that all women at all times have an absolutely sterile period in fixed relation to the menstrual cycle." This statement is so comprehensive that exception cannot be taken to it. Since the majority of women ovulate in the middle of the cycle, and almost always at the same time, there is an infertile or safe period for the great majority of women. Dickinson has been slow to admit this.

Of all the books on this subject, which somehow has become less controversial, Dickinson's are the best.

CHARLES A. GORDON.

Doctor Book For Laity

THE HOME BOOK OF MEDICINE. By David Polowe, M.D. New York, Greenberg Publisher, [c. 1938]. 581 pages, illustrated. 8vo. Cloth, \$2.75.

Many of the home medical guide books for lay people now on the market are intended as a substitute for the doctor. The volume under review is not in this class, for it strives not only to give information as to the anatomy and physiology of the human body in simple, understandable language but urges the services of a physician for those ailments where it is necessary. In the main, simple remedies and first aid measures are advocated for emergency needs.

A. E. SHIPLEY.

The Narcotic Drug Racket

DRUG ADDICTS ARE HUMAN BEINGS. The Story of Our Billion-Dollar Drug Racket. How We Created It and How We Can Wipe It Out. By Henry S. Williams, M.D. Washington, Shaw Publishing Company, [c. 1938]. 273 pages. 8vo. Cloth, \$2.50.

The title does not accurately depict the contents of the book, since it deals primarily with the relationship of physicians to the Federal Narcotic Laws and only incidentally with drug addicts themselves.

The author is a well known physician who keenly feels that there is an unjust prosecution by federal law officers of physicians in their invested right to treat patients as they see fit:—in this case drug addicts. It is propaganda to arouse the lay public as well as physicians to

the realization that doctors who treat drug addicts as sick people are open to federal prosecution because of an illegal departmental regulation. This code tells the doctor how he may treat these people and how much of a narcotic he may prescribe for each drug addict.

The theme of the book is that the narcotic drug "racket" could be eradicated very quickly if physicians were permitted to treat drug addicts as they see fit with no interference from federal departments. This could be brought about by the fact that addicts would apply to medical men for treatment as sick persons, and not be forced to seek their necessary supply of narcotics from the dope peddler.

The cases cited by Dr. Smith Williams are undoubtedly authentic, and make one stop and ponder why such conditions have been permitted to exist and even flourish.

Without question "DRUG ADDICTS ARE HUMAN BEINGS" should be read by all who desire to see wrongs righted, but especially by physicians, since they are primarily concerned.

JOSEPH L. ABRAMSON.

The Principles of Anatomy & Physiology

ELEMENTARY ANATOMY AND PHYSIOLOGY. By James Whillis, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 342 pages, illustrated. 8vo. Cloth, \$3.50.

As the title indicates the subject matter is very elementary. From the standpoint of the medical student whose curriculum begins with anatomy there is hardly enough material to satisfy his barest needs. For the beginner there can be no short-cuts to the attainment of a sound knowledge of anatomy. It must be admitted, however, that the book contains much useful material which is often lost to the student among finer details in the large texts.

The content of physiology far better qualifies the book for the first year medical student's library. The material is well chosen and well stated. Enough functional flavor is present to satisfy the average student's curiosity until he begins his formal course in physiology. On the whole the book should be more useful to the less exacting requirements of nurses.

GEORGE H. PAFF.

MEDICAL TIMES, MAY, 1939

New Edition of Cabot's Diagnosis

PHYSICAL DIAGNOSIS. By Richard C. Cabot, M.D. and F. Denette Adams, M.D. Twelfth edition. Baltimore, William Wood & Company, [c. 1938]. 846 pages, illustrated. 8vo. Cloth, \$5.00.

Cabot and Adams have rewritten and revised the former's old book of physical diagnosis so that it now contains twice as much material, all beautifully arranged and clearly marked out by the use of dark type to stress important headings. The book is so excellent and so superior to all others that it is difficult to know just where to begin praise. The sections on diagnosis of the heart and chest diseases are incredibly complete, there being some much needed stress of the part played by blocked bronchus in altering physical signs in pulmonary disorders. The section on Tuberculosis is full of sound information.

We prophesy that this volume will, in a short time, supplant all similar books now being marketed.

ANDREW M. BABEY.

Nurses Text on Diet

NUTRITION IN HEALTH AND DISEASE. By Lenna F. Cooper, M.A., Edith M. Barber, B.S. and Helen S. Mitchell, B.A. Seventh edition. Philadelphia, J. B. Lippincott Company, [c. 1938]. 712 pages, illustrated. 8vo. Cloth, \$3.00.

This is a comprehensive book on nutrition for nurses. It covers the entire curriculum, and has for many years been an accepted textbook. The book has been brought up to date to conform to the many advances made in the past three years since printing the last edition.

MORRIS ANT.

Schliephake's Physical Therapy Revised

SHORT-WAVE THERAPY. The Medical Uses of Electrical High Frequencies. By Dr. Erwin Schliephake. Authorized English Translation by R. King Brown, M.D. Second English edition. London, The Actinic Press, Ltd., [c. 1938]. 296 pages, illustrated. 4to. Cloth, 21/.

An outstanding contribution such as this book, written by a pioneer in a new art, is indeed welcome at all times. In this second edition of his book, Dr. Schliephake has given a most complete and detailed account of his subject. It is refreshing to note that the extravagant claims so often made by the short wave enthusiast are decidedly toned down. Indeed, the author distinctly tells

us that "miraculous cures cannot be expected of short wave therapy." He stresses the need of study and attention to indications for the treatment.

The final chapter, devoted to a summary of conclusions, would possibly find a better place at the opening of the text, as it cannot fail to arouse the greatest interest in short wave therapy even in the confined skeptic.

It is to be regretted that future editions of this fine work must fall short of its high quality if the author adheres to the most recent dictates of his government.

The book is well written and clearly printed and illustrated, and the translator has done an excellent piece of work. The practitioner who uses short wave therapy will greatly profit by a thorough study of this book.

JEROME WEISS.

Emergency Surgery

EVERYDAY SURGERY. By Lambert Rogers, M.Sc. and A. L. d'Abreu, M.B. Baltimore, William Wood & Company, [c. 1938]. 280 pages, illustrated. 8vo. Cloth, \$4.75.

This little volume will appeal particularly to the general practitioner. For details of surgical technique or of etiology and pathology, recourse must be had to more comprehensive surgical works. Here, however, in concise fashion, stripped of theoretical and controversial discussions, are set down the essentials of diagnosis and treatment of the common surgical conditions which confront the physician in his daily routine.

The chapters dealing with abdominal catastrophes and genito-urinary diseases deserve special mention.

This book will make an excellent guide in emergency and for rapid refreshing of one's memory.

MAYER E. ROSS.

Speech Disorders In Children

CHILDREN WITH DELAYED OR DEFECTIVE SPEECH. Motor-Kinesthetic Factors in Their Training. By Sara M. Stinchfield and Edna H. Young. Stanford University, Stanford University Press, [c. 1938]. 174 pages, illustrated. 8vo. Cloth, \$3.00.

This book is divided into two parts. The first part discusses the theoretical problems concerned with speech, and analyzes the results of the physical examination, mental and audiometer tests made on a group of children. The sec-

and part deals with speech therapy.

Both sections of the book are independent of each other, and discuss their material in a thorough manner. The book emphasizes the point that a child with delayed speech should not be regarded as mentally deficient, but is in need of a thorough investigation. The speech therapy which is advocated is described as the motor-kinesthetic approach. The book should be of interest and value not only to persons interested in speech training but also to medical men and particularly to the pediatrician.

ISAAC W. KARLIN.

The Insanitary Drinking Glass

SANITIZATION OF THE DRINKING GLASS. Part one "Methods and Procedures" by Jack G. Baker; Part two "Practical Control" by Raymond V. Stone, D.V.M. Los Angeles, National Association of Sanitarians, Inc., [c. 1938]. 60 pages, illustrated. 12mo. Paper.

It is not unusual to find a worthwhile contribution to public health literature from those engaged in this field of work who are not physicians. This interesting and practical monograph is worthy of notice.

This booklet directs attention to the hazard of infection through the use of drinking glasses and also in the use of eating and drinking utensils. The problem of the various cleansing and sterilizing methods is discussed; analytical procedure as well as practical methods for control of the hazard are set forth.

There are a number of illustrations as well as numerous references.

This monograph should prove of value to physicians, also to persons who are engaged or interested in public health work.

CHARLES T. GRAHAM-ROGERS.

Popular Book On Hair Removal

SUPERFLUOUS HAIR AND ITS REMOVAL. By A. F. Niemoeller, A.B. New York, Harvest House, [c. 1938]. 155 pages, illustrated. 12mo. Cloth, \$2.00.

This little book although not written by a physician contains much information on the subject of superfluous hair which should be valuable to the lay person seeking advice and guidance.

In the opinion of the reviewer, the correct removal of superfluous hair is a procedure that should only be done by a trained operator under the supervision

of a physician, preferably a Dermatologist. Therefore, we think the author gives poor advice in the last chapter in which he suggests that women may remove their own superfluous hair at home by electrolysis.

Not all superfluous hair should be removed, and a physician should always be consulted first to ascertain whether or not removal is advisable and if so, what method is the best to employ.

Superfluous hair is a medical problem and should be handled as such.

ALFRED POTTER.

Latest Volume of the Harvey Society

THE HARVEY LECTURES. Delivered under the auspices of The Harvey Society of New York. Series XXXIII. Baltimore, The Williams & Wilkins Company, [c. 1938]. 275 pages. 8vo. Cloth, \$4.00.

The Harvey Lectures continue to be one of the chief adornments of New York City's medical year. This collection includes a survey of the important contributions of Harry Goldblatt to experimental hypertension and other papers by Lundsgaard, Drinker, Peters, Bard, Stanley, Koch and Hecht.

MILTON PLOTZ.

A German Monograph on Neurology in Relation to the Joints

DAS ZENTRALNERVENSYSTEM UND DIE RHEUMATISCHE GENANNT AKUTE POLYARTHRITIS. By Dr. Gustav Ricker. Leipzig, Verlag von Theodor Steinkopff, [c. 1938]. 157 pages, 8vo. Paper, RM. 6.38.

After dealing with the nerve supply of the joint and its parts, and their relation to the blood supply, the author discusses different forms of arthritis associated with corpus liberum, hysteria, concussion of the brain, encephalitis, syringomyelia, tabes, and multiple sclerosis.

Polyarthritis, which the author prefers to call Bouillaud's disease, is a combination of diseases and pathologic disturbances which may occur together or successively. Acute polyarthritis in the wider sense thus comprises angina, endocarditis, myocarditis, pneumonia, nodi, erythema nodosum, and myelitis. Another chapter deals with chorea and the psychoses in polyarthritis. The joint affection is still considered, however, the predominant disturbance in this mixed group of pathologic states.

MEDICAL TIMES, MAY, 1939

The cause of the arthritis and all the associated diseases mentioned above is the result of excitation of the central nervous system, which acts reflexly on the "telerrheithren" (apparently the author's own word meaning terminal vascular areas) in the joints.

The excitation probably takes place in the brain and not in the spinal cord. The author argues that salicylates act predominantly on the brain. They suppress the cortical excitation which caused the pain and thus inhibit an intracerebral reflex, the efferent neurons of which are the nerves of the joint blood vessels. The question as to "the part of the brain in which the excitation of the nerves of the blood vessels occurs, must be left unanswered, but it may be said that the cortex must be taken into consideration."

Later chapters deal with former conceptions of polyarthritis and with etiological factors. Microorganisms as an etiological factor are rejected.

Although the author's hypotheses are untenable from the neurological point of view, it must be said that many of his opinions on physio-pathology are sound and reasonable.

F. A. QUADFASER.

A Pocket Manual on Physiological Chemistry AIDS TO BIOCHEMISTRY. By E. A. Cooper, D.Sc., and S. D. Nicholas, B. A. Second edition. Baltimore, William Wood & Company, [c. 1938]. 213 pages, illustrated. 16mo. Cloth, \$1.50.

This small pocket size volume is printed in the form of a compendium. It is well written, and has all the essential facts of a larger book. It can be recommended especially for students and general practitioners, who care to look for facts without spending much time.

M. ANT.

Practical Bacteriology

A TEXTBOOK OF BACTERIOLOGY. By Thurman B. Rice, M.D. Second edition. Philadelphia, W. B. Saunders Company, [c. 1938]. 563 pages, illustrated. 8vo. Cloth, \$5.00.

The practical attitude toward diagnosis, management, and control of bacterial disease is the outstanding feature of this text. Without slighting necessary data, much technical, theoretical and other material usual in undergraduate textbooks has been avoided in furnishing a lucid and mature interpretation of all essentials in sufficient elaboration. It is exceptionally readable, clearly illustrated, and well revised. Not a book for the technician, it definitely provides a complete and thorough working knowledge of its subjects for students, graduate or not, in medicine and its related vocations.

IRVING M. DERBY.

BOOKS RECEIVED *for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.*

LANDMARKS IN MEDICINE. Laity Lectures of the New York Academy of Medicine. Introduced by James A. Miller, M.D. New York, D. Appleton-Century Company, [c. 1939]. 347 pages, illustrated. 12mo. Cloth, \$2.00.

SURGICAL TREATMENT OF HAND AND FOREARM INFECTIONS. By A. C. J. Brickel, M.D. St. Louis, The C. V. Mosby Company, [c. 1939]. 300 pages, illustrated. 4to. Cloth, \$7.50.

SURGICAL ANATOMY. By C. Latimer Callander, M.D. Second edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 858 pages, illustrated. 4to. Cloth, \$10.00.

ANEMIA IN PRACTICE. Pernicious Anemia. By William P. Murphy, M.D. Philadelphia, W. B. Saunders Company, [c. 1939]. 344 pages, illustrated. 8vo. Cloth, \$5.00.

THE NEW INTERNATIONAL CLINICS. Original Contributions: Clinics; and Evaluated Reviews of Current Advances in the Medical Arts. Edited by George M. Piersol, M.D. Volume 1, New Series 2. Philadelphia, J. B. Lippincott

Company, [c. 1939]. 312 pages, illustrated. 8vo. Cloth, \$3.00.

PERSONALITY STRUCTURE IN SCHIZOPHRENIA. A Rorschach Investigation in 81 Patients and 64 Controls. By Samuel J. Beck, Ph.D. (Nervous and Mental Disease Monograph Series No. 63). New York, Nervous and Mental Disease Monographs, [c. 1938]. 88 pages, illustrated. 8vo. Paper, \$2.00.

ANALYSIS OF PARERGASIA. By Gladys C. Terry and Thomas A. C. Rennie, M.D. (Nervous and Mental Disease Monograph Series No. 64). New York, Nervous and Mental Disease Monographs, [c. 1938]. 202 pages, illustrated. 8vo. Paper, \$4.00.

CIVILIZATION AGAINST CANCER. By Clarence C. Little, Sc.D. New York, Farrar & Rinehart, Inc., [c. 1939]. 150 pages. 8vo. Cloth, \$1.50.

CHRONIC DISEASES OF THE ABDOMEN. A Diagnostic System. By C. Jennings Marshall, M.D. Boston, Little, Brown and Company, [c. 1939]. 247 pages, illustrated. 8vo. Cloth, \$6.00.

BACTERIA: The Smallest of Living Organisms. By Dr. Ferdinand Cohn. Translated by Charles S. Dolley. Baltimore, The Johns Hopkins Press, [c. 1939]. 44 pages. 4to. Paper, \$1.00.

THE COMPLETE GUIDE TO BUST CULTURE. By A. F. Niemoeller, A.B. New York, Harvest House, [c. 1939]. 160 pages, illustrated. 8vo. Cloth, \$3.50.

CLINICAL GASTROENTEROLOGY. By Horace W. Soper, M.D. St. Louis, The C. V. Mosby Company, [c. 1939]. 314 pages, illustrated. 4to. Cloth, \$6.00.

THE VAGINAL DIAPHRAGM. Its Fitting and Use in Contraceptive Technique. By LeMon Clark, M.D. St. Louis, The C. V. Mosby Company, [c. 1939]. 107 pages, illustrated. 8vo. Cloth, \$2.00.

You may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the MEDICAL TIMES, 95 Nassau Street, New York, N. Y.



CONTEMPORARY PROGRESS

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tion is indicated if he is not acquainted with the primary obstetrical principles upon which the mechanism of labor is based. Furthermore, no physician should attempt this operation unless he is well informed on the matter of asepsis and antisepsis.

"When all is said and done," the surgically trained obstetrician who is thoroughly honest with himself is the proper person to perform Cesarean section. Until this is routine practice we shall continue to have a high maternal mortality in Cesarean section.

H.B.M.

Evaluation of the Intradermal Test for Pregnancy

S. R. PARSONS (*Surgery, Gynecology and Obstetrics*, 68:187, Feb. 1, 1939) reports a study of the intradermal test for pregnancy described by Gilfillen and Gregg. The test is based on the theory that an anterior-pituitary-like substance is present in the blood of pregnant women, so that such women would not show sensitivity to this substance injected intradermally, while non-pregnant women would show a sensitivity reaction.

Gilfillen and Gregg used antuitrin-S (2 minims) for the intradermal test. Parsons, in repeating their work, used antuitrin-S and also two other anterior-pituitary-like substances—follutein and antophysin; a control injection of sterile water with a few drops of glycerine was also made. All injections were made intradermally. In 100 cases of known pregnancy, no reaction with any of the solutions was shown in 66 cases; of the 34 cases showing positive reactions 30 reacted with follutein alone, 4 with all three solutions. There were 11 cases in which the pregnancy was of two months' or less duration; 8 of these patients reacted to one or more of the solutions, so that the test was correct in only 3 cases. In 30 control cases in women known not to be pregnant, 6 of these gave no reaction with any of the solutions—or 20 per cent. positive pregnancy test in known non-pregnant women; 15 gave a very faint reaction with follutein only. In a review of the literature the author finds reports on the use of the test by other investigators in 679 cases; in all these cases the test proved entirely unreliable; various preparations of the hormone were employed. The author concludes that this test cannot be accepted as a reliable test for pregnancy.





EDITORIALS

Charles Howard Goodrich

DR. Goodrich was the ideal type of citizen and doctor, serving school and church and army as well as many hospitals and medical societies. As the Editorial Sponsor of surgery in this journal's Contemporary Progress department he served long and faithfully, contributing valued comments and criticisms out of the wisdom born of his vast experience.

Enter Mars, Accompanied by Venus

LANGUAGE has been exhausted in depicting the horrors of war, but there has been a tendency to omit the venereal phase. Faced by the imminent peril of conflict, however, the British Social Hygiene Council has begun to sound the alarm and to prepare to deal with the threatened scourge. The Council is fearful of failure to meet the threat of infected persons who refuse to undergo treatment and become potential sources of grave spread of infection in any better fashion than in the First World War, when the unsatisfactory measure known as No. 40D of the Defense of the Realm Act aroused an enormous amount of criticism and antagonism.

The conditions now faced by the British may yet find counterparts elsewhere. As to such conditions the Council has the following to say:

MEDICAL TIMES, JUNE, 1939

The rearmament and defence problem brings a new importance and significance to the work for young people which the British Social Hygiene Council has developed. Both conduct and health—physical and mental—are involved in the possibilities of an emergency situation. One of the most striking features of the defence programme is the great expansion of our Air Force, with the establishment of a large number of new Training Centres and Aerodromes in what were hitherto predominantly rural areas. This entails the concentration in these areas of large numbers of adolescent and young men of good physique, and rendered more attractive to all women by the wearing of a smart uniform. Granted that modern youth has attained a comparatively high standard of sex-conduct, it is nevertheless certain that these conditions will lead in such areas to a considerable degree of sexual promiscuity, likely to be further increased by an influx into the neighborhood of camps of a number of women. This, in turn, will inevitably lead to increased venereal infection, both among the personnel of the camps and the neighbouring civilian population—male and female.

In these quondam rural areas, now the sites of camps, no guidance in sex behaviour has, in many cases, been given to young people, and for those who need them the free treatment centres under the control of the County Councils are few and far between; in many cases none exists within many miles of the camp.

Ups and Downs of Osteopathy

DURING 1938 144 osteopaths were licensed to practice medicine or surgery or both in nine states—Texas, Colorado, New Jersey, Massachusetts, Virginia, New Hampshire, Wisconsin, Wyoming and Oregon. The *Journal of the American Medical Association*, in its issue of April 29, 1939, raises a question as to the nature of osteopathy and sounds a note of alarm at the increasing tendency of legislators to introduce bills aiming to give osteopaths a medical status. Is osteopathy medicine, asks the *Journal*, and do schools of osteopathy

teach it? What about the public welfare, not to say safety?

Osteopathic schools refuse inspection by the Council on Medical Education and Hospitals of the American Medical Association. As a matter of fact, it is known that the curricula of medical and osteopathic schools differ. Schools of medicine emphasize diagnosis, etiology, prevention, and surgery, whereas the very backbone of osteopathic teaching is an alleged brand of therapy. Disease results from mechanically deranged structures, therapeutic principles depend upon manipulation of bones, and no drugs are supposed to be used. Medicine is based on research and clinical observation. Actually, osteopathic treatment has largely evaporated and become one therapeutic agent among many. While osteopathic treatment may help a limited number of ailments, any plea to perform surgery, use anesthesia, opiates and biologicals further substantiates the deficiencies of the system. Realizing all this, osteopaths aim to encroach on medicine in order to maintain their existence. They attempt to gain an equal footing with medicine while lagging far behind in preliminary preparation, curricula and internships. The public health and safety are indeed menaced by such applicants for licenses.

It is true that many graduates of inferior medical schools have passed state examinations—and subsequently have had to give up their licenses or to cease and desist from practicing because of their inferior training. Just passing is not sufficient to permit such privileges as are enjoyed by the Doctor of Medicine. The responsibility is too great. The same argument holds good against osteopaths.

For the safety of the public and the intelligent care of the sick students aiming to practice osteopathy should be compelled to take a full course in an approved medical school and obtain the degree of Doctor of Medicine before attending an osteopathic school with the idea of specializing in this form of therapy. Why should graduates of osteo-

pathic schools try to obtain the same privileges as the medical practitioner through legislation? By admitting their deficiencies and entering medicine by the front instead of by the back door, the system would stand on its own merit, if any, and take its proper place in the treatment of human ailments.

A committee of Kansas legislators, properly determined to learn the truth about such schools for themselves, recently visited one and were appalled by their weird findings.

The fact remains that the practitioners of this system have overcome obstacles to practicing medicine in nine states. Why, they naturally reason, should they go to any educational trouble when they

can gain their objectives without doing so?

The fault, of course, lies with some legislators, governors, and indifferent, uninformed and weak medical men.

Following are the conclusions of the joint Advisory Committee, representing the College of Physicians and Surgeons of Ontario, the Ontario Medical Association and the Universities in Ontario engaged in the teaching of medicine, on osteopathic colleges and teaching in Kirksville, Philadelphia, Des Moines and Chicago, formulated by Dr. F. Etherington, Dean, Faculty of Medicine, Queens University, Kingston, and Dr. E. Stanley Ryerson, Assistant Dean, Faculty of Medicine, University of Toronto.

1. The buildings of the four osteopathic colleges with their plant and equipment inspected by us do not, in our opinion, provide the facilities so absolutely necessary for the training of medical students.
2. The hospital and clinical facilities in the four osteopathic institutions visited by us, in our opinion, are entirely inadequate.
3. The requirements for admission and length of the courses at the four osteopathic institutions visited by us fall far below the standards required by medical colleges in Ontario.
4. The curricula and courses of study in the four osteopathic colleges visited by us are so different in their quality and fundamental principles of instruction that they could not be recognized as equivalent to those given in medical colleges.
5. The scientific training and clinical experience of the members of the teaching staffs of the four osteopathic colleges, visited by us, are not of



**ESTABLISHED
IN 1872**

such a character or quality that the courses of instruction given by them to their students could, in our opinion, be accepted as fulfilling the requirements of the College of Physicians and Surgeons of Ontario.

As the result of our visit to the four osteopathic colleges already mentioned and after a close inspection of their buildings, plant and equipment, their hospital and clinical facilities, their requirements for admission and length of courses, their curricula, and after attending their lectures, laboratory classes and clinics, and after a full discussion with the different members of their faculties and staff, and finally bearing in mind the lack throughout their entire course of bedside teaching in small groups in hospitals, we are firmly convinced that it would not be in the interests of the public that the graduates of these colleges, past or present, be admitted to the Ontario licensure examinations leading to the practice of medicine in Ontario.

Euthanasia

EUTHANASIA may be defined as good death, when death seems preferable to life—the right of men to die by their own choice or the choice of others.

This subject springs up periodically like a mushroom, and its advocacy becomes a widespread malady. Although unethical and unscientific, it occasionally bemuses some of our best professional friends, entangled in the snare of a false liberalism. In the weird ideological soils now available, the seeds of mercy murders are bound to get some nourishment.

The question is now up again. Legislators plan to introduce bills to legalize euthanasia. The argument in the affirmative is the right of persons suffering from incurable disease to die. Dr. Alexis Carrel states that in his opinion not only the incurable, but imbeciles, habitual criminals and the hopelessly insane should be quietly and painlessly disposed of. Dr. Frederic Bancroft has been quoted as saying, "I do not see why a person should be condemned to agony. I do not see why we should not give humans the same treatment we accord to animals." Most of us do not subscribe to mercy killing because it makes for an abandonment of efforts to alleviate and cure. No trend could be more unscientific, aside from paganistic implications. Thus the convictions of most of us are expressed by Fishbein's "No civilized country permits murder except in self defense" and Galdston's "Doctors are interested in maintaining life; if society wants executions, it will have to look for them in other ranks." We still feel bound by the ancient oath which all of us have sworn to keep inviolate: "I will follow

the system or regimen which according to my ability and judgment I consider for the benefit of my patients and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to anyone if asked, nor suggest any such counsel."

Mercy killing would deprive the medical profession of the very stimulus of research. What is it that impels us to look for methods to prevent suffering in the victims of cancer, diabetes, arthritis and other grievous afflictions? If we were to take the short cut, and end the lives at our disposal, how much progress would there be? It is because we feel our great scientific and social responsibility that we disdain the easy way. We are not challenged to destroy life but to discover ways and means to make it acceptable to men. Slaying the patient will not end disease and suffering; what could be more unconstructive?

In so far as we sanction the taking of life near its end, we shall encourage the killing of those at the beginning of life, in other words, infanticide. And it can hardly be argued that abortion, already such a flourishing industry, needs any further encouragement.

To the rewards that grateful nations bestow upon invalided soldiers may yet be added another—euthanasia.

We now care tenderly and upon a vast scale for the mental and physical derelicts of the First World War. But we have cruelly withheld from them, according to the advocates of euthanasia, one final boon—mercy killing for the most grievously afflicted. To relieve pain and prolong life is not enough; this allegedly humane but outmoded technic must give place to surcease from all pain and from all futile compromises. It is the high duty of the physician to take life at the behest of an increasingly powerful State. The privilege of the supreme sacrifice on the part of the streamlined military invalid is hailed for its glory; the role of the executioner is alleged to grace and adorn the streamlined doctor of the future.

If we have a right to send men into the trenches in war then have we a right to send them into a lethal chamber in peace? So long as we engage in war is it completely logical that we offer its

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THE DEVELOPMENT OF THE CONCEPT OF *Catatonia*

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Philadelphia, Pa.

Introductory

IN all likelihood catatonia is not a new condition; it is probably as old as man. Scattered references in the writings of Hippocrates and the Bible are suggestive of patients suffering from the catatonic state. Man's consideration of catatonia in the scientific sense is, however, relatively recent. The tracing of the concept of catatonia in the earliest centuries would be based necessarily on very insecure data, so that this history is confined almost exclusively to the nineteenth century. The importance of studying the history of a disease concept is quite evident, and its value in directing current thought has been emphasized repeatedly by such historians as Sigerist¹.

In this presentation the early classification schemes will be presented and the criteria of classification discussed. The psychiatric thought surrounding the creation of these classifications formed the background from which the various modern schools of psychiatric thought developed and in this setting catatonia was originally described as a disease entity. Its acceptance as such was greatly influenced by the hebephrenic concept which arose at about the same time. The fate of both these concepts will be described in the terminal portion of the presentation.

Classification by Symptoms

AT the beginning of the nineteenth century it was generally recognized that obvious and markedly abnormal be-

havior was a matter of illness and not demonology. There was at this time very little order in the consideration of the mass of syndromes until the time of Pinel. Out of this chaos of unclassified manifestations arose the first recognized system of classification. Pinel² in 1809 separated mental disease into four main groups purely on the basis of the symptoms they displayed:

1. Mania or general delirium
2. Melancholia or exclusive delirium
3. Dementia or abolition of thought
4. Idiocy or obliteration of the faculties

This system was founded on Pinel's observation of patients, and apparently even he understood his classifications to merge one into the other, and a diagnosis did not limit itself to only one of these groups. His descriptions of the course of mania, i.e., precursor, outbreak, rise and fall, were noteworthy. The word "delirium," which was used not alone by Pinel, but also by his elaborator, Esquirol³, is a difficult one for modern psychiatrists to comprehend, since its meaning has changed so often. Esquirol propounded the conception of "partial mental destruction" along theoretical lines and, on the basis of these considerations, rearranged the groups suggested by Pinel.

Esquirol thought of four forms of the "insanities":

1. Monomania
2. Mania
3. Dementia
4. Idiocy

These were stated definitely to be only symptom complexes and not disease entities. They were thought to be common to many sorts of mental disintegrations

¹From the department of Neurology, Graduate School of Medicine of the University of Pennsylvania.

²Read before the Philadelphia Psychiatric Society, October 14, 1938.

which were diverse in evolution and outcome. He asserted that diseases of the mind, as bodily ailments, had a natural history of precursors, onset, course, and conclusion. The outcome for mania and melancholia was, however, frequently dementia. While Esquirol's interest was largely in the symptom complexes themselves, his followers departed from these concepts and concerned themselves with disease entities. Thus Bayle⁴ and Calmeil⁵ described progressive paralysis of the insane and Baillarger⁶ the folly with two forms (presumably manic-depressive disease). Kahlbaum⁷ later thought of this group in the term "vesania typica," or typical insanities.

Classification by Disease Entities

IN Belgium was formulated the first classification scheme which wholeheartedly embodied the disease-entity concept. This was largely from the pen of Guislain⁸:

Melancholia

Ecstasy (Exaltation of the intellect with general muscle rigidity)

Mania

Folly (Anomalies of volitional life)

Delirium

Dementia

However, he stated that melancholia ushered in all mental illness and thought of mental disturbances as analogous to febrile diseases with prodromes, increment, acme, decrement, and convalescence. In the beginning a psychic disturbance was said to have involved the feelings, then invaded the bounds of impulse and passions, and then reached the seat of the mind.

The Unit-Psychosis Concept

ZELLER⁹, before Guislain, concluded that, if an orderly sequence of symptom-complexes is frequently seen, all such cases are similar in nature, i.e., a disease entity. His teachings were propagated by Griesinger¹⁰ in the latter's textbook. The distinction was made between early curable states (associated only with affect disturbances) and incurable states occurring secondarily and associated with disturbances of the "understanding." In this conception of a unit psychosis with primary and secondary destruction lay the Achilles heel of this classification. Disagreeing with Griesinger, Neumann¹¹

in 1859 stated that all mental disease consisted of eventual psychic destruction. This started with delusions followed by a confused period and ended in imbecility. This and other unit psychosis viewpoints were soon found untenable.

Jacobi¹² in 1830 took the almost inevitable stand that there was no psychic destruction, but that mental symptoms were merely manifold complications of bodily illness and hence classification was superfluous. This attitude has never been entirely discarded. However, Jacobi served to point out the unproductiveness of earlier classification schemes.

The Setting from which the Concept of Catatonia Took Origin

IT was with this background that Kahlbaum⁷ in 1863 sought a new form of grouping. He reasoned that previous classifications had failed because of the methods used, and he proposed to erect a system founded upon observation of patients and devoid of rationalization, psychological conceptions and the like. The erection of disease entities on the basis of clinical observation was his goal, but he had not entirely escaped from the typical (or unit psychosis) concepts of Zeller⁹ and Neumann¹¹. Kahlbaum's typica vesania was a limited disease form which was described in four courses:

1. Melancholia
2. Mania
3. Confusion
4. Imbecility

The progress of the mental illness might halt at any step, but might also continue without a break. Specifically, Kahlbaum⁷ established a method consisting of clinical observation of patients over long periods of time in an effort to delineate natural disease types. This longitudinal view as opposed to previous cross section methods formed the scaffolding upon which the concept of catatonia was erected.

The Position of Catatonia in Early Classifications

THE most striking of the catatonic symptom-groups was melancholia cum stupor or attonita. Pinel² had described disease pictures which had been called melancholia attonita and were associated with destruction of the intelligence. No distinction was made between curability and incurability, or between "dementias"

which were inborn or acquired. However, it is certain that Pinel was aware of the spontaneous recoveries as well as the occasional transitions to excited states. Esquirol¹ distinguished the acquired from the inborn demented states, and his first three symptom groups, monomania, mania, and dementia, were in apposition to his fourth, idiocy. Georget¹² took a further step and separated the curable from the incurable states and termed the latter "stupidity." Baillarger¹⁴ in 1853 spoke of Georget's "stupidity" and Esquirol's "acute dementia" as being stages of melancholia with stupor. He also presented by name the two psychiatric entities "melancholy with stupor" and "folly with two forms." At this time he made the claim that in the case of melancholy with stupor there was a natural disease entity arising with melancholy and stupor, which not infrequently gave way to excitement. Guislain⁸ took a middle course, but strongly suggested a somatic element. This suggestion was later of great importance in the formation of the concept of catatonia, particularly in relation to muscle rigidity. He described ecstasy as a state of exaltation of the intellect with generalized muscle rigidity. He also spoke of the unfavorable termination in "imbecility" and death, as well as recidivistic episodes which might occur. Heinroth¹⁵ called these states "melancholia aboules"; Griesinger¹⁶, melancholy with blunted wit. The latter noted onset with epileptiform seizure or frenzy and alternating states. Reil¹⁷ thought of these conditions as due to a disease of locomotion rather than of the "imagination."

THIS was the status of the development of catatonic concepts of the time of Kahlbaum. He opposed the prevailing point of view by denying that melancholia attonica had any relation to melancholia, and regarded the atonic state as of motor rather than psychic origin. He held that Baillarger had described as "melancholy with stupor" merely a cross section state and not a longitudinal section of a natural disease entity, namely, catatonia. Kahlbaum also described mild forms of melancholia with stupor, indistinguishable from catatonia, with favorable outcome. This was apparently the

first notation of the difficulty in distinguishing between catatonic and manic-depressive stupors.

The motor phenomena of catatonia had already been described under the heading of melancholia attonica and, indeed, recognition and description of these symptoms could scarcely have escaped the careful observations of some of Kahlbaum's predecessors. The discoveries concerning progressive paralysis focussed the attention of psychiatrists everywhere on the motor relations of psychiatric disease, and this linking of the somatic and psychic was emphasized by Jacobi¹⁸ and Griesinger¹⁶. Guislain's⁸ descriptions are of particular interest: year-long mutism, the declamatory and preaching urge, the speech mannerisms, patients barking like dogs or repeating the same phrase, grimacing, impulsiveness (Guislain was struck by a patient), bizarre patients who always stood in the same place or upon stone of a certain color, patients who undressed in public and wore all available clothes when in their rooms. Guislain's "fantasy-automatism" was thought to be the prelude or accompaniment of dementia. He noted the peculiar maintenance of unusual body postures, the facial expressions and contraction of muscles, as well as the urge to be naked. He mentioned the unfavorable significance of stereotypies and mannerisms.

VERBIGERATION was described symptomatically by Esquirol¹; stereotypies and mannerisms, by Esquirol¹ and Griesinger¹⁶. The locomotor phenomena must have been a subject of widespread interest as almost simultaneously with Kahlbaum's first paper, and shortly before the publication of his now famous monograph, Rudolph Arndt¹⁹ described many of the motor anomalies in his papers dealing with catalepsy, chorea, and psychoses. It is largely in the work "Chorea and Psychosis" that Arndt in 1868 gave a detailed description of stereotypies, mannerisms, verbigeration, echolalia, and of bizarre writing. He stressed mild agitations or changes in the speech apparatus in which ideas flow from the patient involuntarily, and which are followed by bizarre movements. Arndt, too, made an attempt to correlate all these symptoms into one disease entity, but whereas his point of departure was mus-

cular unrest (including chorea and convulsive states), Kahlbaum emphasized the muscular rigidity. Evidently Arndt had some such disease concept in mind as Kahlbaum, as he grouped together six of his cases which showed a course typically catatonic and which ended in apparent dementia. A further description of catatonic patients was made by Arndt in his papers on tetany, catalepsy, and psychosis in 1872. The necessary factors for the appearance of catalepsy were thought to be: 1. A weakening of the central nervous system, and 2. A strong stimulus which put the nervous system out of commission. The most varied somatic illnesses were capable of providing such a stimulus. Solbrig^{23a} in 1872 evolved theoretical concepts similar to Arndt's.

The Kahlbaum Classification

THE above material formed the more important background for the publication of Kahlbaum's^{23b} monograph "Die Katatonie, oder das Spannungsirresein," in 1874. The foundation for this study had been laid in his paper in 1863 on classification in which the following system was enunciated:

- Neophrene (inborn anomalies)
- Paraphrene (mental abnormalities which arise during a transition period of biologic development)
- Vecordia (idiopathic mental disturbances in which psychic symptoms are of limited extent)
- Vesania (idiopathic disturbances with important affection of the whole psyche, more or less)
- Dysphrenie (disturbances developing in response to a special physiologic or pathologic somatic abnormality)

He subdivided vesania into vesania progressiva (paresis) and vesania typica, which latter consisted of four stages, 1. Melancholy (increment), 2. Manic (acme), 3. Perturbation (decrement), 4. Dementia (termination). The concept of catatonia, which group Kahlbaum later coordinated with his vesania typica group, arose from this presentation. He investigated the clinical aspects of melancholia attonita and regarded it as a symptom-complex which might frequently arise in the course of catatonia. He further emphasized the linkage of the

psychic disturbances and motor symptoms. These latter included convulsions and any symptoms referable to the functions of nerves or muscles or both. With Guislain, Kahlbaum found there was a difference between muscular spasticity and catalepsy, and showed that "catalepsy cerea" was indistinguishable from some of the motor phenomena noted by previous observers in melancholia attonita. He described stereotypies and other bizarre motor acts of demented patients and stressed the importance of mimicry and physiognomy in psychopathology. Kahlbaum intended to broaden the concepts of the symptoms of catatonia and also to focus attention on the diagnostic and prognostic significance of details of the clinical picture of the mentally deranged. From the preceding, it is apparent that catatonia, in its fundamental relations, was defined in 1863 in Kahlbaum's paper dealing with grouping. The course, clinical features, and importance of the various motor symptoms and their essential unity and diagnostic worth were so united that they needed only names (as Kahlbaum stated in 1866 in Königsberg) to delineate the disease picture of catatonia.

AT the research assembly in Innsbruck in September, 1869, Kahlbaum²⁴ publicly established "tension-confusion" as a disease entity, presenting two cases. A detailed report was not published and the idea apparently met with scant notice. However, a lively discussion developed over this disease-concept at the Leipzig conference in 1872, in consequence of Arndt's communication with regard to "Tetany and Psychosis." Hecker then called Arndt's attention to the fact that Kahlbaum had already described this symptom-complex in 1869 under the name of catatonia. Arndt admitted this, but cautioned against the raising of symptom-complexes to the status of disease entities too readily.

The Definitive Monograph of Catatonia

IN his 1874 monograph²⁵, Kahlbaum described catatonia as a brain disease with a cyclic alternating course, the psychic symptoms of which in turn presented the picture of melancholia, mania, stupescence, confusion, and finally of imbecility, from which picture one or

more phases could be lacking. In this setting motor symptoms of the general nature of convulsions might occur. The prognosis was considered moderately favorable although death in the atonic state might occur (as a result of tuberculosis, which was a frequent complication). Remissions were uncommon, but did occur. The influence of heredity was said to be small. The age grouping of Kahlbaum's cases was general with a preference for the younger and middle aged. Predisposing factors included masturbation, chlorotic anemia, and spiritual over-exertion. The motor symptoms were the automatic sequels of "motor-neuronic processes" and were etiologically similar in spite of the convulsive phenomena occasionally observed. The most important of these symptoms were spasms, catalepsy, mannerisms, stereotypies, and negativism. In diagnosis the vocal anomalies such as mutism and verbigeration were important. With regard to the severity and duration of the clinical course, Kahlbaum differentiated catatonia mitis, gravis, and protracta. Pathologically, this disease was said to be a process of degeneration which was followed by atrophy (presumably of disuse) in the late stages. Especially characteristic were said to be the localized areas of opacity of the basal arachnoid. Microscopic examination revealed no significant abnormalities.

The above constitutes an historical summary of Kahlbaum's concept of catatonia. That this concept experienced a later development and a transformation is easily seen when one compares Kraepelin's²⁰ definition of catatonia (1899) with Kahlbaum's formulation. After Kraepelin the concept was more concerned with diagnosis and the appearance of characteristic states of stupor or excitement with manifestations of negativism, of stereotypies and suggestibility. The chief weight was shifted from the course of the illness and gross motor phenomena to the outcome in apparent weakening of the intellect. The prognosis influenced the diagnosis to a rather illogical degree.

In order to evaluate properly the significance of the preceding, one must appreciate another view which was developing in psychiatric thought, and that is included in the history of hebephrenia.

The Hebephrenic Concept

ESQUIROL⁷ had described individuals who were born healthy and whose development was normal up to a point when "spiritual" progress stopped and retrogressed. These were classified under acquired "idiocy." While Kahlbaum⁸ in 1863 placed the disease picture of hebephrenia in his grouping, he did not describe this concept very thoroughly. He said of the group called "neophrene" that the patients, after a normal youth, exhibited markedly degenerative mental phenomena. The most characteristic symptom was the apparent dementia, which had to be differentiated from in-born idiocy. The onset at puberty was especially stressed.

Hecker's Monograph on Hebephrenia

WHILE catatonia, the outlines of which were promulgated in 1863, waited ten years for recognition, hebephrenia was accepted almost simultaneously with the publication of Hecker's²¹ monograph in 1871. Hecker's description included: occurrence at puberty, successive or changing symptoms, extremely rapid dementia and terminal imbecility, traces of which were present in the early stages. In diagnosis the chief weight was to be placed on the onset at puberty, the entirely unfavorable prognosis, and the foolish mental debility early manifested. Hallucinations and delusions were of no pathognomonic import. Etiologically, heredity was unimportant, but childhood sicknesses and head injuries were stressed.

Emphasis on "Degeneration"

THE development of Hecker's idea of hebephrenia was significant in changing the limits of disease concepts, and of systematic and etiologic definitions. The first important work which embraced all these concepts was by Fink on youthful confusion which was set forth by Rienecker²² at Eisenach in 1880 before the Society of German Psychiatrists. He emphasized that the degeneration process played the premier rôle in biogenetic consideration and that the onset at puberty must take second place. This degeneration could be hereditary or acquired. He placed little value on the

course of the disease; the outcome in spiritual debility seemed more important. Three of Fink's concepts are noteworthy:

1. Hecker's designation of a foolish, manneristic, imbecilic person was less important than the dementia, 2. Degeneration was deeper than that described by Hecker, and 3. Catatonics might show hebephrenic symptoms and hebephrenics might show catatonic symptoms. Schüle later designated "hebephrenia with associated tension-neurosis." Kraft-Ebing in his textbook mentioned hebephrenia only cursorily. In 1886 Schüle²³ concerned himself particularly with hebephrenia and described associated mental disturbances as hebephrenic idiocy, but admitted that a basis of weak intellect was not necessary for a diagnosis of hebephrenia. He particularly emphasized the concept of a hereditary degeneration. The patient was "stranded on the rocks of puberty" and one part of him turned to hebephrenia and another to acute dementia, which now received the name "dementia praecox." This latter term was introduced by Morel²⁴ in 1860 although its meaning has since changed many times.

Relation Between Catatonia and Hebephrenia

IN 1890 Kahlbaum²⁵ made an attempt to broaden this concept by grouping it under the name of "hebetie forms" in company with his Heboid, published in 1884. By "heboid" or "heboidophrenia" Kahlbaum meant cases of disease in which hereditarily degenerated individuals suffered a change in character resulting in moral perversity. While he had wished to separate these forms from hebephrenia, in 1890 he recognized the interrelationship of all these forms. Pick²⁶ in 1890 more emphatically called hebephrenia a type of "dementia praecox", by which he meant "destruction of the spirit which appears at the time of puberty, sets in quietly, and runs its course just as quietly with progressive debility." In Russia, hebephrenia had received more cognizance. Mairet²⁷ in France made a place for it under "puberty-psychosis", while Tuke²⁸ in England designated it "moral-insanity." In Russia, Kowalewsky²⁹ devoted a chapter of his textbook to it. Fischel³⁰ in

1886 dealt with the disease concept in detail and described the patients as "curable and teachable." His therapeutic methods seem not to have survived. Obviously the original point of departure from the biogenetic consideration of the onset at puberty was shifted more and more to a consideration of the progressive mental debility. Darazkiewicz³¹ raised Hecker's age limit of 18-20 to 30. In so doing he lowered one more barrier between the two concepts of hebephrenia and catatonia, as hebephrenia previously was thought not to appear in the age group preëempted by catatonia. Kraepelin in 1893 sought to bring order out of chaos by ascribing hebephrenia to the grouping of dementia praecox, and thus joining it with catatonia and the newly created dementia paranoides as all symbolizing "psychic degeneration-processes." These disease forms were united by transitional cases and had the common characteristic of frequently terminating in states of psychic debility. The most important bond was a common prognosis. Kraepelin also noted frequent hereditary degeneration and did not insist on changing the age limit to early manhood.

Return to the Unit-Psychosis

GRIESINGER'S textbook separated the course of mental diseases into primary and secondary destructions, primarily, melancholia and mania, and secondarily, insanity and imbecility. This concept received its full historical importance in 1876 in an article by Westphal³² read at the assembly at Hamburg. He established, to the satisfaction of those present, that insanity was a primary disease which could have a chronic or acute course. All insanities had a common bond in primary abnormality of the imaginative life resulting in withdrawal of affect. Thus by laying a foundation of psychological considerations, psychic states in which the course and termination might be different were represented as similar. While originally catatonia stemmed from a concept which had as its goal detailed observation of its course, Westphal's formulation would class it with his primary insanities. So deep a gap arose between Kahlbaum's conceptions and those of Westphal that

one view could not be held in all its consequences without excluding the other and eventually Westphal's was discarded.

Emphasis on Research and Observation

AT the same meeting at which Westphal presented his views concerning catatonia, Hecker made his contribution to the understanding of this disease. He clung to the methodology of Kahlbaum, i.e., to set up natural disease entities by a consideration of all disease elements, especially the prognostic elements. While Hecker sought to obtain recognition for catatonia by emphasizing the research method, with which recognition such a concept stands or falls, Brosius in 1877 dealt with differentiation of the manic-like state of exaltation found in catatonia from the disease forms of mania with flight of ideas and excellent prognosis for the attack. He indicated the importance of this distinction by pointing out that catatonia customarily ends in imbecility, and added that hereditary degeneration is usually present. In doing so he constructed a bridge between catatonia and hebephrenia based on appearance at puberty, heredodegenerative concepts, and prognosis. He doubted the anatomic unity of the disease and spoke of a meningitic and anemic form. Jensen³³ in 1881 strongly emphasized the etiologic importance of heredity. Neisser³⁴ in 1887 reported on catatonia, but although his own cases permitted him to observe the generally unfavorable prognosis, Neisser was not explicit on this point. He attempted to study catatonic concepts by making a comprehensive study of the symptoms of the disease and their theoretical foundation.

Further Development of the Catatonia Concept

THE first textbook to deal extensively with catatonia was by Schüle³⁵. In 1868 under the heading "dysphrenia neuralgica" he described atonic phases as belonging to certain pathological psychoses. Schüle departed from Westphal's point of view in his 1880 textbook in that he placed catatonia with the insanities, although he did not regard it as a special kind of disease. Catatonic insanity, melancholia attonita, and primary dementia or stupor were placed together

under "cerebro-psychoses with tension-neurosis." The motor symptoms of catatonia were thought of as "an important organic modification" (of the psychopathology present). He loosed the motor symptoms of catatonia from the rest of the disease concept. This he could do more easily on philosophic grounds as he did not commit himself to the methodology erected by Kahlbaum. He united under catatonic insanity certain disease pictures, although they differed in their course, and subdivided such groups as catalepsy, tetany, spinal-motor and cerebral-psychic disease on the basis of predominance of the individual symptoms. Chance factors such as nutritional disturbances, individual peculiarities, and the like were indicted as determinants of the final outcome of melancholia attonita. In 1886, however, Schüle conceded to Kahlbaum the delineation of catatonia which he (Schüle) defined as a "special form of appearance of acute hallucinatory, delusive states with motor tension neurosis" and, while in 1880 he separated catatonia on the basis of motor symptoms, in 1886 he distinguished catatonia according to the form of delusive idea. On the latter basis he spoke of "expansive" and "depressive" catatonia and a third, hysterical group. Mutism was traced back to an inner remorse; the warrior-preacher-crucifixion phenomena were delusions in plastic form. Primary dementia with its atonic and stuporous states was separated from catatonia after a consideration of the "awareness-state." Schüle's psychological standpoint was seen in an article on paranoia in which Westphal's concept of primary abnormalities of the imagination was given great prominence. By 1897 Schüle was prepared to differentiate catatonic "phases", which occur in mild or severe forms, from "true catatonics." The mild forms of catatonia were regarded as constitutional confusion on the basis of a neurosis, and especially of an hysterical confusion. The more severe form was fundamentally a primary dementia or a periodic, circular, degeneration psychosis modified by catatonic symptoms. In 1901 Schüle limited "true catatonia" entirely to primary dementia with frequent degeneration. The most important symptom was no longer the delusive idea, but the assembled picture of a degenerative

process. Kraft-Ebing in 1890 mentioned catatonia in his textbook with scant comment, as his primary interests at the time were largely in agreement with Westphal³².

Opposition of Wernicke to Kahlbaum's Views

WHILE Koch³³, on the ground of Kahlbaum's anatomic descriptions, placed catatonia with the organic psychoses, Sommer in 1894 counted this disease among those not recognizable anatomically. He showed an inclination to unite hebephrenia with catatonia under the concept of primary mental debility. Ziehen's textbook in 1894 based psychiatric considerations on psychological interpretations, and spoke of catatonia as a rare disease of poor prognosis, grouping it with generalized psychotic states. Wernicke designated catatonia as an "akinetik-parakinetik motility psychosis." Kahlbaum wanted true classification, Wernicke aimed chiefly at registering; Kahlbaum considered course and outcome, Wernicke mainly symptomatology; Kahlbaum strove to arrive at natural groupings by clinical investigation, Wernicke by anatomico-physiologic deductions. In 1883 Kraepelin emphasized that he intended to set up a row of symptom-complexes, but made no mention of catatonia at this time. In 1889 he presented catatonia and designated it as atonic lunacy, placing weight on delusions and hallucinations. In 1893 he conclusively rejected the psychological viewpoint in order to "take the last step with the transfer from the symptomatologic view to the clinical" and at this time admitted catatonia to be a natural disease entity. Of it he said that catatonia, sprung from the ground of inborn or acquired degeneration, led to imbecility and that there were transitions between hebephrenia and catatonia. The essential thing in catatonia, as in hebephrenia, is neither the delusion nor the motor symptom, but the outcome in a debilitated state. By catatonia Kraepelin now meant states of excitement going over into stupor and, later, mental debility. The four part schema of the course, which had only historical authorization and offered a remnant of rationalistic ten-

dencies in psychiatry, fell as soon as the last belief in such theoretical prejudices had disappeared. In place of the chief symptom of tension and convulsions, important through theoretical contrast with progressive paralysis, the clinically more important symptoms of stereotypy and the new symptoms of positive and negative suggestibility were put forth. At the same time, with the last step toward gaining the purely clinical point of view, Kraepelin in 1896 raised the last historically important difference with Kahlbaum, by allowing melancholia attonita, from which Kahlbaum had departed, to remain in the concept of catatonia. Mentioned in 1893 and emphasized in 1898 by Kraepelin was the grouping of dementia praecox which included catatonia, hebephrenia and his own dementia paranoidea, made on the basis of common psychic degeneration.

Kraepelin's Codification of Catatonia with Dementia Praecox

WESTPHAL'S doctrine of primary destruction of the imagination placed catatonia with the unit insanities, while Kraepelin was forceful in denying the concepts of primary and secondary stages of a unit psychosis. The definition of catatonia made by Kraepelin in 1898 brought the symptom of negativism more to the foreground, but the classification of catatonia under the concept of dementia praecox, as a catatonic form of dementia praecox, jeopardized the recognition of catatonia as a disease entity. The term "dementia praecox" did not signify much more to Kraepelin than a superficial formulation which in no way implied that the disease process was the same in all groups. Kraepelin's influence on psychiatry up to the present day has been tremendous. The dementia praecox concept, which has simplicity in its favor, has been widely adopted and is preserved in many places, not as a superficial grouping, but as a disease entity in which the onset is commonly at the age of puberty and which ends in a more or less considerable degree of dementia. Catatonia has survived not so much as the natural disease entity recognized by Kahlbaum (and Kraepelin), but as a kind of dementia praecox.

Bleuler stated that, in his opinion,

the foundation and essential element of this group of psychoses is the splitting of the various portions of mentation from the normal integrated state. For this reason he has preferred to think of dementia praecox as "schizophrenia" which signifies a psychologic interpretation rather than a clinical course.

Arndt²⁴, in an extensive review of the historical aspects of this subject, has presented the viewpoint of the finished story. This very valuable article was drawn upon freely in the preparation of this review. However, the history to date may be regarded only as steps of a stairway which is still far from complete.

Conclusion

THIS presentation has dealt very briefly with the more important landmarks in the development of the concept of catatonia. The presentation of such data is important for a correct orientation of the problems concerning catatonia as they exist today. Pinel's and Esquirol's classifications were important as they made necessary an expression of criteria

by which psychiatric manifestations might be recognized. In following the general tenor of the intellectual life of the early nineteenth century these criteria would necessarily be philosophic and arbitrarily created. Such criteria were soon superseded by those based more largely on observation, and the concept of the natural disease entity in psychiatry made its appearance with the work of Guislain. There was a swing back to the theoretical with the unit psychosis ideas of Zeller and Neumann. Kahlbaum firmly insisted on the importance of clinical observation, which had been so fruitful in paresis, and on this basis the concept of catatonia slowly evolved as a natural disease entity. With renewed interest in such entities other investigators made this concept more firm. The development and quick acceptance of hebephrenia as a disease entity rested partly on the soil fertilized by the interest in catatonia. These two entities have since been joined and disjoined many times as emphasis shifted from symptoms on one hand to age at onset and course on the other.

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NONSPECIFIC THERAPIES IN *Schizophrenia*

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AT the present time the syndrome or symptom complex known as dementia praecox or schizophrenia can hardly be called a definite disease entity. Its cause is unknown, there is no known pathology or morbid anatomy, its clinical symptoms are extraordinarily diverse, and although its prognosis is usually regarded as poor, nevertheless all psychiatrists are acquainted with cases presenting classical symptoms of a severe degree which ended in apparent recovery. Occasionally there are cases which can not with any degree of certainty be differentiated from some other forms of mental diseases, notably certain forms of manic depressive psychosis, psychoneurosis and psychopathic personality.

Of the various forms of schizophrenia, the paranoid seems to be most open to criticism. It is made up of a heterogeneous group of delusional cases loosely linked together by some common features of behavior and thought. This makes comparison of cases of dementia

praecox of the paranoid type not analogous unless the cases are examined individually for common points of analysis.

Psychoanalysis has revealed that symptoms in dementia praecox can usually be traced back to past experiences and repressed desires. The external signs and symptoms may be likened to vagaries of dreams and consist of symbols of wish fulfilments. They are evident not as random unrelated expressions, but actually are dependent on buried or repressed complexes. The actual final form is seen as the result of the impossibility of realizing instincts in a manner that is satisfying both to the individual and the usual social customs. However, at the present time there is no known explanation for the continued dementia that frequently takes place, or why these patients cannot adapt themselves to the difficulties of life but are forced constantly to attempt to adjust at lower levels of equilibrium. The various dynamic psychoanalytic mechanisms are well known and fairly consistent but the reasons for them still remain a mystery.

THERE are occasionally met cases which resemble schizophrenia closely but their outcome is usually in the form

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of complete recovery. They may in an inconsistent and paradoxical fashion be termed cases of benign schizophrenia or dementia praecox. This form is most often seen in the so-called prison psychoses. An individual shortly after arrest or some time later may suffer a marked change in personality closely resembling schizophrenia. They become unkempt, indifferent, resistive, seclusive, mute, refuse food and show many bizarre hallucinations and delusions. According to Pas-kind' they present a few features that are not common in schizophrenia. They are almost always disoriented, they recover after a variable period of time, usually a few months, and after recovery they almost always have complete amnesia for the period of the psychosis. The essentials of this prison psychosis are therefore that it occurs during a period of stress, it resembles schizophrenia, disorientation is prominent, and recovery takes place after a short time. However, such cases are not always readily differentiated from the more malignant psychosis except by the outcome. In a similar fashion cases are admitted to state hospitals which seem to have a similar short course but nevertheless are diagnosed usually as dementia praecox. The exact incidence of this form of "benign schizophrenia" is not certain and its differentiation is difficult. However, it, like the preceding type, must be considered in the evaluation of any form of therapy.

UNFORTUNATELY, no specific form of therapy for schizophrenia is known. The multiplicity of varied treatments is a mute testimony to the lack of therapeutic success offered by them. They range from ordinary empirical forms of treatment of value in any type of mental disease to the use of specialized drugs such as amylal, benzedrine, metrazol, carbon dioxide and oxygen and more recently hypoglycemic shock treatment produced by insulin. The results obtained by some of these will be briefly reviewed.

For a time the use of certain hypnotic drugs had great vogue and of these the most commonly used one was sodium amylal either intravenously or orally. However, it was soon evident that while this drug had its value in certain forms

of dementia praecox the effect was only temporary. Thus Thorne² studied its effect upon a large number of cases. He gave 0.5 gm. intravenously and preceded this by a similar amount orally. He found that the longer the period of injection the longer the period of unconsciousness. He found that the results were only in the form of a temporary psychic release. It was found of especial value in catatonic types with mutism, flexibilitas cerea and various feeding problems. However, it is not apparently necessary to produce sleep or unconsciousness. Broder,³ who has done considerable work with this drug, believes that it is an important adjuvant to various forms of psychotherapy, especially in establishing proper rapport. He has also advocated the use of caffeine 0.5 gm. intramuscularly followed later by the intravenous injection of 0.25 gm. of sodium amylal in 10 per cent solution. He also found that it was beneficial in producing changes in mutism, rigidity and the untidy state of catatonia. The changes, however, lasted only from a few days to a short period of a few hours. His best results were obtained when the sodium amylal was given 10 minutes after the caffeine. The variability of this therapy is seen from the following selected cases chosen from a series treated by the writer. However, the drugs were both administered orally, the sodium amylal in six grain doses and caffeine sodium benzoate (instead of caffeine) in 7½ grain doses.

F. V., female, age 23, suffered from a psychosis of three months duration and was diagnosed dementia praecox of catatonic type. She presented the typical picture of mutism, flexibilitas cerea, drooling, and utter indifference to states of cleanliness and to her excretions. She was resistive, and frequently tube-fed or spoon-fed. It was necessary to dress and undress her. She was given the above dose for the first time on February 26, 1935 at 7:00 a.m. At 7:20 a.m. she appeared much brighter and went into the dining room of her own accord and ate a hearty breakfast. She spoke spontaneously to the nurse for the first time and answered questions quite readily. She, however, mentioned numerous delusional ideas but showed no particular reactions towards them. She began to help the nurses make beds and seemed very anxious to talk about herself and her home. She was very pleased to wear her own clothing instead of the strong dress which she had formerly worn because of her destructive habits, which consisted chiefly of aimless tugging at her clothes. At noon, she again ate well and following this asked to be allowed to dry dishes, which she did quite well. Later on she asked for paper to write her parents a letter and when this was given to her she wrote a fairly good letter. She spent the evening reading a book and listening to the radio.

Before going to bed she asked for a toothbrush, stating that she must have neglected "her looks". At 5:00 a.m. the following morning the nurse reported that she had again returned to her old state, so that it was necessary to dress and feed her. She was again untidy and showed the same marked drooping of her head. She was again given her oral medication in the same dose. The results were essentially the same as the previous day except that the effect of the medication did not appear to be so prolonged. At 11:00 p.m. that night she seemed less certain in walking, her head was drooped, but she still was co-operative, tidy and talkative. In the morning she again returned to her negative state. The same medication was given in the morning for the next week. Far from having a cumulative effect the drug appeared to have less and less effect, so that at the end of the week the patient returned to her mute state at 4:00 p.m. and by the second week at 1:30 p.m. At this period she was given three grains of sodium alurate, and in addition three grains of sodium amylal and seven and one-half grains of caffeine sodium benzoate. Patient showed no response until 7 hours later, but still continued to droop her head. Incidentally, the elevation of the head had been originally one of the first signs of the effectiveness of the therapy, while drooping of the head was an early sign of the end of the period of effective therapy. The three drugs caused her to be talkative and to eat of her own accord, but these effects lasted only five hours. This type of therapy was finally abandoned because of the decreasing response to it. She was now placed on hyoscine hydrobromide, gr. 1/100, given hypodermically at 7:00 a.m. Little effect was then seen for a period of three hours. She ate her meal slowly but did not speak and continued to droop her head and walk about slowly. At 2:00 p.m. she was given 7½ grs. of caffeine sodium benzoate and 3 grs. of sodium amylal. She showed little change in her condition. She continued mute, slow in her reactions and still drooped her head. It was necessary to spoon-feed her at the evening meal but she did not resist this procedure. She had to be undressed when going to bed. In the morning she had to be dressed, did not talk, and stood rigidly with her head drooped and her eyes firmly closed. This case was selected because of the good original response. Contrast this with apparently similar cases, all of whom are catatonic and tube-fed or spoon-fed. The psychosis in most has been of longer duration.

T. B., age 21, was given caffeine sodium benzoate grs. 7½ and sodium amylal grs. 7½ intravenously. For a few moments he became drowsy and began to talk and walk willingly with the nurse. He spoke of being Sherlock Holmes and a soldier. He began to polish the floor and sweep. He drank a few cups of eggnog of his own accord, but refused the regular meal. Three hours after the medication he returned to his original state. When the medication was repeated on the following morning practically no result was obtained except that he went to sleep for twenty minutes and when he woke up was in his usual catatonic state. Little effect was produced by similar injections when given for the following three mornings. As a result this medication was discontinued. Four other patients treated in a similar manner showed little or no effective results.

D. S., age 40, was a typical mute catatonic whom it was necessary to tube-feed. He was given gr. 1/100 of hyoscine hydrobromide hypodermically at 9:00 a.m. In approximately one hour he showed a decided change. He was highly fearful, suspicious and restless. He became so talkative that it was almost impossible at times to write down the tremendous number of delusional ideas that he expressed. He ate his noon meal readily. At 5:00 p.m. he again returned to his old state. On following mornings similar injections were again repeated with diminishing results until prac-

tically no response was obtained. These results can again be contrasted with similar treatment in a series of five other catatonic patients in whom no results were obtained.

THESE cases indicate the non-specificity of the effect of various types of drugs on individuals who are apparently suffering from the same type of psychosis. No prediction can be made of the type of patient that will react with some form of improved conduct. Where favorable responses were obtained, the results were temporary and the effect appeared to be less beneficial with continued therapy.

Cloetta and Maier claim to have had some success by the use of prolonged narcosis, using a rectal mixture of paraldehyde 0.48 gm., amylene hydrate 0.159 gm., chloral hydrate 0.115 gm., isopropylallylbarbituric acid 0.04 gm., digalen 0.03 mg., and ephedrine hydrochloride 2.46 mg. They claim a good deal of improvement in 160 cases. Monnier⁴ also used this solution with the result that 53 patients improved, 58 remained unimproved, in 14 the treatment had to be discontinued, and two died. This improvement is no more than would be spontaneously expected without the use of drugs. Niven,⁵ using somnifen for narcosis, reports rather poor results in schizophrenia. Insulin was given with glucose both before and after the narcosis. Two cc. of somnifen were injected intramuscularly three times a day for 10-15 days. The treatment frequently produced very grave complicating symptoms. He reports only one recovery in ten cases with 3 temporary improvements and no change in 6. Parfitt⁶ reports a similar poor response to this form of treatment. Horsley⁷ recommends narco-analysis as an aid to treatment. He induces light narcosis by the intravenous injection of a 2½ per cent solution of nembutal at the rate of 1 cc. a minute intravenously. He states that it is a practical substitute for the economically unavailable—if desirable—method of psychoanalysis. Reiter attempted to prove the intoxication theory of schizophrenia by the heroic method of total transfusion in 4 patients. He obtained some improvement in three and the other showed no change.

WITHIN the past two years more definite promise of therapy was visualized in the newer treatments with

metrazol or insulin either separately or combined. The passage of time and the use of mass results of the treatment of large numbers of cases have again proven that the treatment of dementia praecox is still eluding our grasp.⁸ At first, with the treatment of the more promising cases, highly glowing reports were obtained. However, many again recurred to their previous poor state. Analysis of mass results indicates that the use of either treatment probably only results in an acceleration of recovery in the cases which probably would have shown improvement without this form of treatment. It must be admitted that occasionally cases show improvement which probably would not have done so without this form of treatment. But every psychiatrist is acquainted with patients, even of a chronic type, who unexpectedly recover or show a marked spontaneous improvement. It must be regretfully admitted that our present armamentarium against schizophrenia is still very weak.

Summary

1. Treatment of schizophrenia still remains empirical and symptomatic. No effective weapons of attack have as yet been discovered.

2. The use of hypnotic drugs produces only temporary beneficial effects in conduct but not necessarily in speech and thought. There is little or no change in the ultimate outcome of the psychosis.

3. The use of metrazol or insulin has produced little change in the total number of improved cases. It has, however, produced more rapid improvement and thus is time-saving because of the lessened hospital residency. The recovery or improvement rate as judged by the number of discharges from the hospitals still remains 40-50 per 100 total admissions of the same psychosis. This coincides with the rate for spontaneous remissions over a number of years. The nature of the improvement appears no more stable than spontaneous remissions, the readmission rate for both being 20-25 per 100 admissions of that psychosis.

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1850 SOUTH AVENUE.



EDITORIALS

—Concluded from page 253

soldier victims whiffs of carbon monoxide and an obscene extinction—one brutal and paganistic folkway appropriately supplementing and complementing another?

Thus we have the euthanasia advocates to thank for suggesting, unwittingly, still another dubious side of war.

Are You of Noble Ancestry?

ERNST, Baron von Feuchtersleben (1806-1849), who was born in Austria of Saxon parents who were in poor cir-

cumstances, became a physician of note. He was professor of psychology in the Medical School of Vienna and acquired a large practice. Because of his noble ancestry he could not with propriety submit bills or statements for professional services. Moreover, his patients feared to insult him by alluding to their fees, or by paying them. Despite the man's great abilities and versatility as physician, educator, author and poet—besides his important *Medical Psychology* he wrote poems that were set to music by Mendelssohn—he remained poor and died miserably.

Perhaps it is the noble ancestry of some of our unthrifty colleagues which accounts for their shortcomings on the business side.

Sulfapyridine

IN PNEUMONIA

HOWARD F. BEAKEY, M.D.

Brooklyn, N. Y.

TWENTY-FIVE cases of pneumonia were treated only by sulfapyridine during the months of January, February and early March, 1939. These were from the wards and private rooms of St. Mary's Hospital, Brooklyn. Other pneumonia patients were given serum or sulfanilamide, depending on the type of the infecting organism. Nineteen of the sulfapyridine series were definitely caused by classified pneumococci; the remaining six showed diplococci in the broth cultures, but no mouse inoculations were attempted in these latter.

Toxic reactions of nausea and vomiting were manifest, ceasing with the discontinuance of the drug. Cyanosis was markedly increased in eleven instances,

directly traceable to sulfapyridine. One developed such mental aberration that restraint was required; withdrawal of the medication produced quietness and orientation.

THREE deaths were listed. Two were essentially due to type three pneumococci. One had been sick seven days prior to admission, and had a severe bacteriemia; the second case had been ill three days prior to admission. The third death was a clear-cut cardiac demise, in a boy of twelve years who had rheumatic heart disease, class 2B.

Two had complication of pleural effusion, both being absorbed. No empyema occurred. Rectal administration of the drug was attempted in two patients, with satisfactory results.

In this small series, sulfapyridine proved to be efficacious in the treatment of pneumococcus pneumonia. It is a drug

ANALYSIS OF RESULTS FROM SULFAPYRIDINE

Nausea. Eight patients (moderate to severe).

Vomiting Six patients.

Cyanosis Eleven patients.

C.N.S. One patient.

Skin None.

Lobar Pn. 21 cases. All twenty-five cases were checked by x-ray.

Broncho Pn. 4 cases.

Type of Pneumococcus. Type 1 (2); type 2 (2); type 3 (5); type 4 (2); type 5 (1); type 6 (2); type 13 (2); type 14 (1); type 15 (1); type 18 (1); unclassified (6).

Hours to Normal Temp. 47.6 hours average.

Died. Three; two of type three; one cardiac (class 2B) of type 15, who died a cardiac death.

Cause of Death. Type three pneumococcus pneumonia in two cases. Cardiac death in one case.

Mortality per cent. From pneumonia 8 per cent. Including cardiac 12 per cent.

Average number of Tablets per Case. 34 tablets, or 17 grams.

Complications. One case developed low grade pneumonitis on side opposite to initial lesion, over fractured ribs. One developed encapsulated pleural effusion, which was absorbed. Another had small pleural effusion. No empyema.

Bacteriemia. One case, type three. All cases had at least one blood culture; and mostly all had two blood counts and several urinalyses; also each case had a Wassermann and a Kahn test, and an estimation of the urea nitrogen, uric acid and sugar of the blood.

Syphilis. One case had early signs of paresis, a four plus Wassermann and a positive Kahn. He recovered.

of low toxicity in contrast to sulfanilamide. The drop in temperature is not as spectacular as with pneumococcal antiserum. The drug does seem to cause a loss of type specificity. Its usage does not exclude the other routine therapeutic measures, such as oxygen, stimulants, forcing fluids, transfusions, etc.

THE toxicity of sulfapyridine is still an unanswered question. Cases of acute hemolytic anemia are being reported. I have come across two such complications, occurring late in the administration. It is becoming more evident that sulfapyridine, alone, is not sufficient in bacteriemic states, these conditions requiring serum in very large doses, as well as the drug.

It is to be hoped that two or three years' usage of sulfapyridine will not reveal some of the complications that have been caused by sulfanilamide, namely,

hemolytic anemias, hepatitis, peripheral neuritis, allergic reactions, delirium (especially in the aged), agranulocytosis, gastro-intestinal disorders. Yet many, many lives have been saved by sulfanilamide.

As we see more of pneumonia, we conclude that the combining of small doses of serum with administration of sulfapyridine is the best approach to the treatment of pneumococcus pneumonia. Early application of this treatment, coupled with accurate recognition of the infecting organism and its classification, will do much to lower the mortality of this disease.

Owing to the high mortality in control cases, treated symptomatically, we did not employ any such comparative measure.

74 OCEAN PARKWAY.



ENTHUSIASM VERSUS FACTS ON *Radical Surgery* **TO CONTROL MALIGNANT DISEASE**

EDWIN J. GRACE, M.D., F.A.C.S.

Brooklyn, N. Y.

WITH great benefit to surgery today we can ponder over that classic of Virchow's, "Die Cellularpathologie," published in 1858, and see unmistakable evidence of a great and still vital surgical philosophy. Particularly pertinent in consideration of radical surgery to control malignant disease is Virchow's

statement, "Nothing has penetrated less deeply into the minds of all than the cell theory in its intimate connection with pathology." That statement might, with infinite benefit to patients, be reiterated today. The chief point in this application of critical cytology to pathology is to obtain a recognition of the fact that the cell is really the ultimate morphological element in which there is any manifestation of life, and that we must not transfer our action surgically to any other field, no matter how sound theoretically, without consideration of cell life.

Sound surgery in cancer must rest upon biology, and any operation to jus-

From the Grace Clinic.

tify itself must consider this basic fact with all its diverse implications. This is especially pertinent to the present day surgical concepts in radical surgery for the cure of malignancy.

DURING the period when the great initial influence of Pasteur and Lister was at its height and the tremendous possibilities for improved surgical technique were stimulating the entire profession, Halsted and Willy Meyer presented their reports advocating radical mastectomy for cancer of the breast. Their theory of radical surgery to control malignant disease was presented when the setting for its reception was very nearly perfect. It was a logical sequel to the remarkable advances that were taking place in surgical technique. With the advent of asepsis, it became possible to carry radicalism in surgery, with safety to the patient, to a point beyond that previously possible; and radical surgery increased in popularity. The theory then accepted was that if, with the primary tumor, all the adjacent lymph glands along which the neoplasm might metastasize could be removed, a good prognosis could be given. With the knowledge then available, this premise was convincing, and Virchow's admonition was apparently forgotten.

However, in reviewing to date what has accrued clinically since the theory of radical surgery to control malignant disease was first propounded, we are reminded of Huxley's remark: "A scientific catastrophe is a beautiful theory destroyed by the ugly facts." It is one thing to compile statistics; but it is still another frankly to examine the results of one's own work.

THE present concept of cellular pathology presenting morphologic varia-

tions having a bearing on the prognosis was published in 1901 by Von Hanse-
mann, some years after the theory of radical mastectomy had been so enthusiastically accepted by the profession. The clinical value of this theory was unfortunately ignored for over twenty years until Broders in MacCarty's laboratory showed with critical cell study in a series of epidermoid tumors that the prognosis could thereby be forecast with a greater degree of accuracy than by any other method then available. Since this report numerous other workers have corroborated Broder's work and extended it to cover practically all forms of neoplasm found in man.

If one studies all reports using this system of grading tumors, in which reliable detail is given, it becomes glaringly apparent that the prognosis is bad in high grade tumors, irrespective of the degree of radicalism resorted to; and conversely, the low grade tumors with any type of surgery gave good results.

In a paper published by me in 1929, it was seriously questioned whether radical surgery was at all responsible for the control of metastasizing neoplasm. The opinion I then formed and have not since changed is that the biology of the tumor determines the outcome, not surgical radicalism. It is a point worth pondering in the light of Virchow's statement, quoted above, that surgeons continue to describe with infinite detail variations in radical technique and illogically to praise or condemn a result on a technical rather than a biological basis. The question may well be raised: how much does enthusiasm for technical proficiency and alliance with a popular trend of thought bias one's reading of statistics on surgical end results?
121 FORT GREENE PLACE.



ANATOMICAL VARIATIONS IN THE *Lateral Sinus* AND ITS TRIBUTARIES

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I HAVE chosen this topic in this symposium because it provides an anatomical background for the intelligent discussion of the papers to follow. The reason sinus thrombosis is one of the most interesting and sometimes the most complex problem in otology is because of the anatomical variations in the lateral sinus. The difficulty of procedure in diagnosis and treatment is simplified by a good understanding of what to expect during an operation when something turns up that has not been explained in the textbook. For instance: cyanosis of the face and head following ligation of the internal jugular; paralysis of the facial nerve; or sudden severe hemorrhage from an unexpected location. Most of these variations have been described before in previous reviews from every angle on anatomy. I have tried to facilitate the study by gathering as many specimens as possible together in slide form for visual demonstration. In any given operative case, these pictures may help one determine the best method to pursue under the existing circumstances.

Anatomy

THERE are sixteen venous sinuses of the dura mater. They constitute an intercommunicating system of fibrous tubes or canals that are situated between two layers of the dura and are mainly found lying against the inner surface of the cranium. Their endothelial lining is con-

tinuous with that of the veins but they have no muscular coat and no valves. They gather venous blood from the brain and its coverings; from the emissary veins of the bony skull, which also drain areas of periosteum and scalp; from the deep tissues of the neck through the anterior and posterior condyloid veins; and from the ophthalmic veins, which drain the eye, orbit and part of the surface of the nose and face.

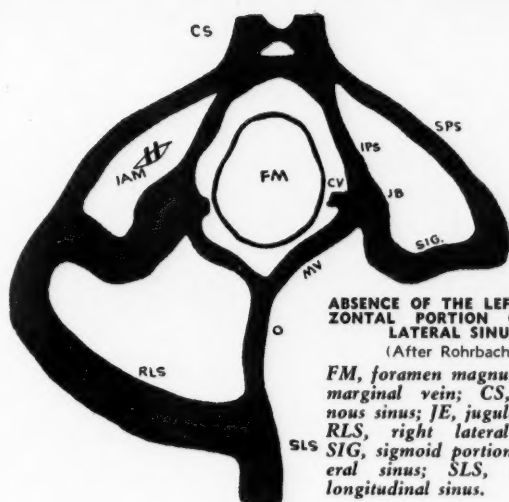
The Lateral Sinus

THE horizontal portion of the lateral sinus lies entirely between the layers of the tentorium cerebelli; the sigmoid portion only partially so. The tributaries of the lateral sinus are: the superior petrosal sinus, the mastoid emissary vein, the anterior and posterior condyloid veins, the inferior cerebellar and cerebral veins, the petrosquamous sinus, when present, the inferior petrosal sinus, the straight sinus, the superior longitudinal sinus, the occipital sinus and the torcular, any one or all of which may show variations that influence the size, shape and course of the lateral. The variations in some of these tributaries are very interesting and of great importance to the surgeon.

Topography

FROM the external occipital protuberance, which corresponds to the torcular, draw a line, toward the superior level of the external bony meatus, to the middle of the mastoid apophysis. This point, in the center of the apophysis, represents

Read before the American College of Surgeons on Brooklyn Day, October 19th, 1938, in a symposium on Lateral Sinus Thrombosis.



ABSENCE OF THE LEFT HORIZONTAL PORTION OF THE LATERAL SINUS
(After Rohrbach)

FM, foramen magnum; *MV*, marginal vein; *CS*, cavernous sinus; *JB*, jugular bulb; *RLS*, right lateral sinus; *SIG.*, sigmoid portion of lateral sinus; *SLS*, superior longitudinal sinus.

the junction of the petrous, squamous and mastoid portions of the temporal bone. When the squamomastoid suture is visible, it is a most reliable landmark. A second line from this point to the mastoid tip delineates the descending sigmoid portion of the lateral sinus. From this second point the sinus, turning inward and slightly forward and downward, ends at the posterior lacerated foramen. Here the sinus almost doubles on itself outward and forward into an expanded portion known as the jugular bulb reposing in the jugular fossa and marking the origin of the jugular vein. The first turning point is the knee and the second turning point is the lower knee. The bulb is in close relation to floor of the tympanum and the facial

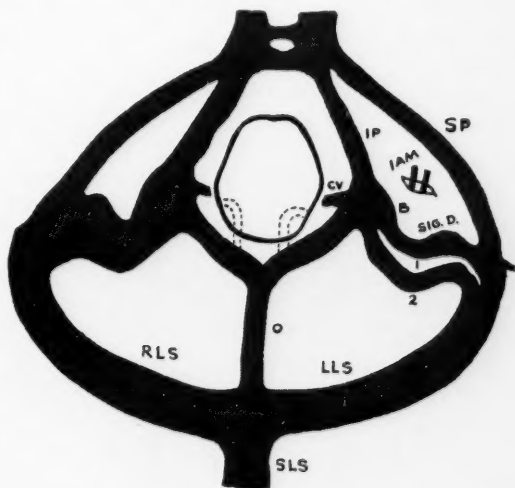
nerve. The internal jugular vein arises directly from the lateral sinus at the bulb. The left vein is usually smaller than the right and is sometimes difficult to find. Otherwise the anatomy is fairly constant and the surgeon should have little or no trouble finding or identifying it. The anterior border of the sternomastoid muscle is its landmark.

Variations

THERE are all kinds of variations in size, position and structure in different individuals as well as between the two sides in the same individual and different portions of the same sinus. Most

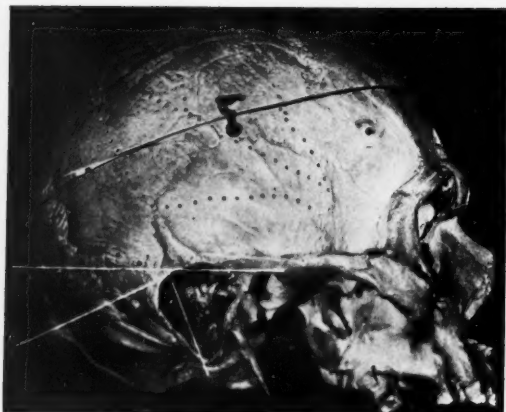
of the reports of anomalies of the lateral sinus come from the dissecting room. Only a few clinical cases are accounted for, either because they are surgical accidents or are found on the postmortem table. Variations and anomalies are explained by the variation of the factors brought to bear during the development of the embryo.

Streeter¹ and Mall² give an excellent



DOUBLE SIGMOID SINUS
(After J. M. Brown)

SIG.D., duplicated sigmoid portion of the lateral sinus; *SP*, superior petrosal sinus; *IP*, inferior petrosal; *CV*, condylar vein; *IAM*, internal auditory meatus; *O*, occipital sinus.



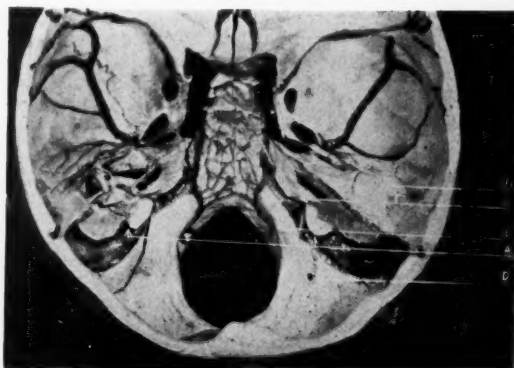
1—EXTERNAL TOPOGRAPHY: Lateral view of skull, with radical mastoid, showing base line marking the horizontal and sigmoid portions of the right lateral sinus. A—demonstrates the knee of the sinus.

channel in the adjacent loops of the plexus with a corresponding dwindling of the previously used channel. Very few veins have the same factors brought to bear causing variations as does the lateral sinus. Some anomalies of the lateral sinus have been mentioned by Streit¹, who classifies them to a certain extent as follows:

I. division of the transverse portion with a horizontal lamella, or a division into two separate channels, which may be found in the sigmoid also;

II. absence of the transverse portion, with the descending portion starting at

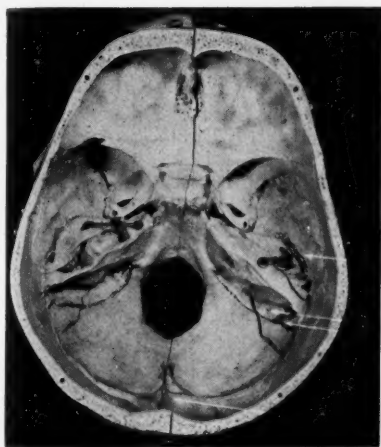
explanation of the methods by which the course of the dural vessels is changed during this development. These changes appear to be due to: first, some flexion or traction force acting upon the veins; and second, to a spontaneous migration and anastomosis. Where there is a change in the position of the blood stream only by anastomosis, the blood stream develops a new



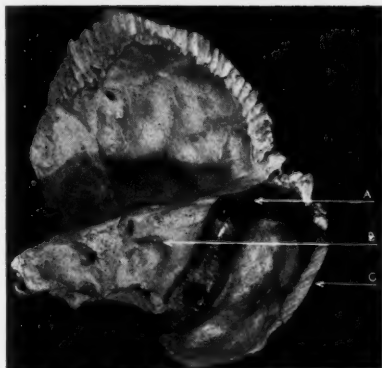
II—Variation between the two sides of the lateral sinus. The right, 12 mm.; left, 5 mm. A—cotton placed in the jugular foramina; B—small superior petrosal sinus; C—large inferior petrosal sinus; D—posterior condyloid foramen, left side absent; E—anterior condyloid foramen, showing connection with inferior petrosal and marginal veins.



III Tributaries of the sigmoid portion of the right lateral. A—anterior condyloid V.; B—posterior condyloid V.; C—jugular foramen; D—inferior petrosal sinus; E—internal auditory meatus; F—superior petrosal sinus; G—mastoid emissary vein.



IV Floor of child's skull. A—formation at torcular; B—right lat. sinus, 4 mm.; left lateral sinus 9 mm.; C—petrosquamous sinus; D—mastoid emissary vein.



V—Right lateral sinus showing: A—marked anterior and superficial position, forming the postero-superior bony canal wall at the knee; B—dehiscence of post. semicircular canal into posterior fossa; C—thickness of skull over horizontal portion, 2 mm., at the knee, 1.2 mm.

the entrance of the superior petrosal sinus;

III. exit of most of the blood stream from the transverse portion through the mastoid foramen with the jugular foramen markedly contracted;

IV. absence of the sigmoid portion with exit of the blood through the mastoid foramen and into the petrosquamosal sinus in the midcranial fossa.

TO this classification Hoople⁴ adds a fifth group;

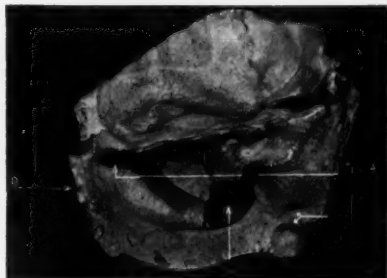
MEDICAL TIMES, JUNE, 1939

V. in which the normal course is pursued but there are variations in the size of the sinus. Hoople also mentions that there are variations in the position, shape and course of the lateral sinus.

Feeling that the above classification does not meet the requirement of present-day knowledge and experience, I humbly submit for your approval a new arrangement of the classification under four headings. It is designed to include all reported anomalies and variations which I have been able to collect from the literature.

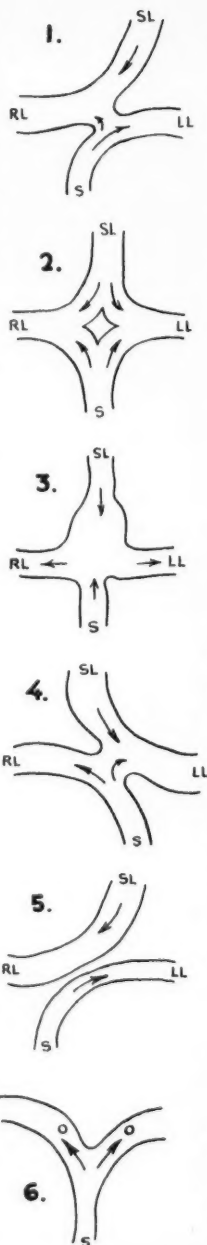
VARIATIONS in size are so common as to almost be the rule. The right side is usually much larger than the left. This may be due to the fact that at the torcular the blood stream or flow is directed mostly from the large superior longitudinal sinus into the right lateral, while the smaller straight sinus is more likely to flow into the left. Sometimes these canals do not all meet at the torcular and are direct continuations of one another. Contrarily, the left lateral sinus may have a diameter two or three times that of the right. Occasionally a large horizontal portion is seen with a constricted portion of the sigmoid in the

VI—Large left lateral sinus showing: A—marked anterior and external position in a large deep sulcus; B—deep recess for the distal end of the horizontal portion of the sigmoid sinus; C—anterior condyloid foramen double, the lower foramen for the XIIth nerve and artery and the upper for the vein; D—thickness of skull at point indicated 1.5 mm.



same sinus. This is due to the fact that most of the blood is drawn off through the petrosals, the petrosquamosal, or the emissary veins. The bulb also varies in size according to the size of the sigmoid portion at the point where it empties into the bulb. The sigmoid may be very large at the upper knee and very small at the lower knee.

Variations in position are quite frequently found. In the horizontal portion of the lateral sinus, the position is fairly constant in relation to the external topography but varies in depth from the surface, depending on the thickness or pneumatization of the individual skull. The sigmoid is usually found to vary in depth; so much so that it is sometimes injured with the first application of the mallet and gouge. Most otolaryngologists have had that unpleasant experience. The sigmoid is usually found farther forward, in closer proximity to the posterior bony canal wall, in those individuals in whom the posterior meatal wall slopes markedly to the interior. It is also found far forward in brachycephalic heads, where faulty pneumatization of the mastoid process is demonstrated or where the mastoid process is small or undeveloped. The suprameatal crest or root of the zygoma is a good landmark to determine its position. When the crest is horizontal, the sinus is anterior and, when the crest slopes upward, the sinus is posterior and deeper. Again it is sometimes found so deep that the internal plate is not exposed until the surgeon almost reaches the level of the external wall of the antrum. The distance between the posterior bony canal wall and



the sinus plate varies from practically 0 mm. to more than 20 mm. One of the illustrations shows the posterior wall of the antrum as the anterior plate of the sinus. The average distance is from 8 mm. to 12 mm. The dome of the jugular bulb lies so far forward in some cases and so high that it is in direct contact with the facial nerve. The illustration shows the nerve actually traversing the dome of the jugular fossa.

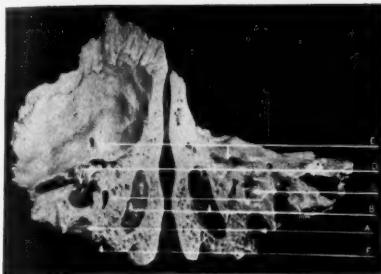
VARIATIONS in structure are rather rare, not many cases having been reported. This group really consists of the anomalies. It is very important to recognize these variations in structure. The lateral sinus may be entirely absent on the left side. Swift⁵ reports a case of bilateral absence in a newborn child who died of status epilepticus. Where one side is absent, the superficial diploic and scalp veins together with the opposite lateral sinus carry all the blood. The horizontal portion as reported by Rohrbach⁶ may be absent on the left side. Several observers have reported double horizontal portions and Brown⁷ has reported a double sigmoid sinus. The sigmoid is sometimes absent, as reported by Laff⁸, Williams⁹, Rijnders¹⁰ and others, from the emissary vein down to the bulb. In this event, as shown in my case, the horizontal portion empties direct-

FREQUENTLY DESCRIBED VARIATIONS, OCCURRING AT THE TORULAR HEROPHIL, OF THE LATERAL SINUS

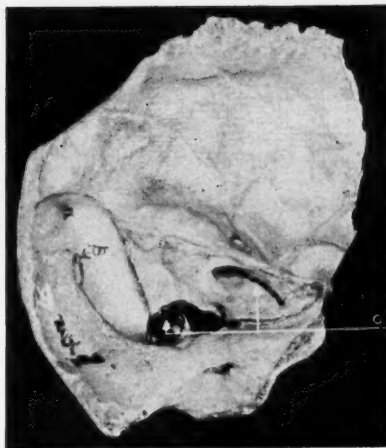
SL, superior longitudinal sinus;
RL, right lateral sinus; LL, left lateral sinus; S, sigmoid sinus;
O, occipital sinus.

In event of thrombus the direction of the current will be changed or reversed.

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VII—Right lateral sinus showing: A—moderately anterior position of the knee; B—artefact due to transverse vertical section through the mastoid, the descending limb of the sigmoid and the tympanum; C—jugular bulb; D—string in the internal auditory meatus running through the facial nerve canal.



VIII—Preceding specimen opened by section, showing: A—dome of jugular fossa; B—descending portion of the sigmoid; C—normal relation of the facial nerve; D—tympanum; E—mastoid antrum with its aditus and tegmen; F—stylomastoid foramen.

ly into the mastoid emissary, the inferior petrosal going to form a very small jugular foramen. The jugular bulb may be absent or very contracted, as reported by Eagleton¹¹, Linser¹² and others; but it is more often found to be double, as illustrated here from specimens loaned me by Burchell¹³. The sigmoid and bulb are sometimes completely bridged over, thus behaving as a diploic vein. The petrosquamosal sinus is usually absent, but is sometimes present and overdeveloped when required to drain venous blood in the absence or constriction of

the sigmoid sinus. The illustration shows its origin from the anterior wall of the knee of the sigmoid sinus; its course along the petrosquamous suture in the middle fossa; and its exit, at the spurious foramen of Luschka, under the lip of the zygomatic root near the glenoid fossa.

ANATOMICAL VARIATIONS IN THE LATERALS SINUS AND ITS TRIBUTARIES

I. Variations in size:

1. In different individuals;
2. In two sides in same skull;
3. In different portions of the same sinus.

III. Variations in position:

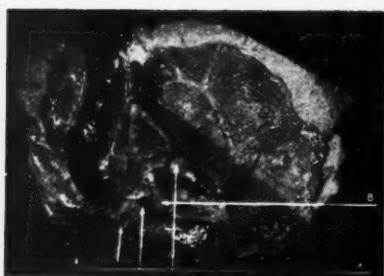
1. In the horizontal portion; (a) superficial or (b) deep;
2. In the sigmoid portion; (a) superficial or (b) deep, (c) anterior or (d) posterior;
3. In the bulb; (a) high or (b) low; (c) superficial or (d) deep; (e) anterior or (f) posterior; (g) relation to facial nerve or (h) middle ear.

II. Variations in structure:

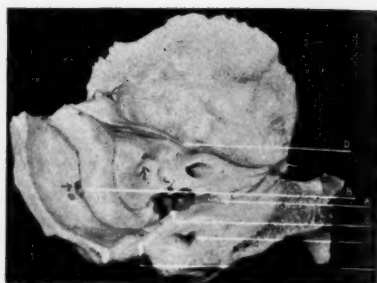
1. Total absence—usually the left;
2. Partial absence—horizontal, sigmoid or bulbary;
3. Double sinus—horizontal, sigmoid or bulbary portion.

IV. Variations in the tributaries:

1. The superior petrosal sinus;
 2. The mastoid emissary vein;
 3. The petrosquamosal sinus;
 4. The inferior petrosal sinus;
 5. The superior longitudinal sinus;
 6. The straight sinus;
 7. The torcular;
 8. The inferior cerebral veins;
 9. The inferior cerebellar veins;
 10. The condyloid veins;
- Any one of which may vary from total absence to marked enlargement or be doubled.



IX—Large left sinus tapering down to the jugular bulb, showing: A—the deep sulcus at the knee; B—the large mastoid emissary vein; C—High jugular dome traversed by the facial nerve.



XII—Left lateral sinus. A—large inferior petrosal sinus; B—large emissary vein; C—double jugular fossa; D—large superior petrosal; E—anterior condyloid foramen; F—posterior condyloid foramen and canal.



X—Left lateral sinus with a high irregular dome, showing: A—facial nerve in each of two sulci of the dome; B—dehiscence from the dome into the floor of the canal and tympanum.

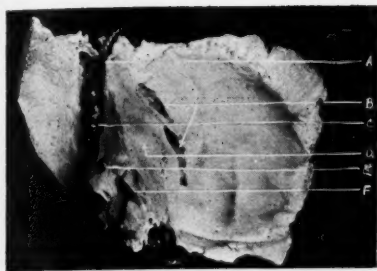
XI—Large right lateral sinus, showing: A—large mastoid emissary vein; B—relation of the high dome to the facial nerve and floor of the auditory canal.



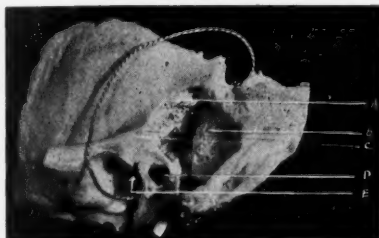
THE variations in the tributary veins and sinuses have all been mentioned except the anterior and posterior condyloid veins and the inferior cerebral and cerebellar veins. The anterior condyloid foramen transmits the hypoglossal nerve together with the artery and the vein. This foramen is sometimes double, giving the vein the right of way through one opening. The posterior condyloid foramen transmits only the vein, which is occasionally very contracted or absent. These veins drain a small portion of the deep tissues of the neck and are important as possible pathways of infection to the sinus when there is no involvement of the middle chamber or mastoid cells.

The work of Irish¹¹ carefully considers the variations of the cerebellar and cerebral veins in a study of 88 cases of lateral sinus with 10 cases of venous thrombosis. The occipital sinus is sometimes double, sometimes Y-shaped and sometimes single. It may empty into the vertebral plexus as well as the sigmoid at the bulb.

SEYDELL¹² states that the anatomic characteristics of the mastoid, i.e., the type of pneumatization, facilities for drainage, etc., are factors which may determine whether an ordinary otitis media may terminate in an involvement of the lateral sinus. He quotes von Fieandt's¹³ statistics to show that in about 79 per cent of the cases of lateral sinus thrombosis, the sigmoid sinus is the

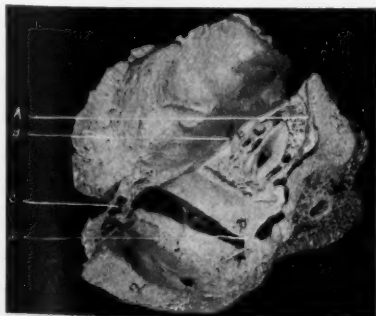


XIII—Petrosquamosal sinus, left temporal bone. A—entrance of the petrosquamosal from the anterior portion of the knee; B—course of the petrosquamosal sinus; C—descending portion of the sigmoid sinus; D—eminencia arcuata; E—dehiscence in angle of jugular fossa; F—internal auditory meatus.



XIV—External view of preceding specimen showing: A—string in petrosquamosal sinus making exit through E, the spurious jugular foramen of Luschka, opening under the edge of the zygomatic root; B—mastoid operated exposing sigmoid sinus plate; C—zygomatic root; D—ext. auditory meatus; E—foramen jugulare spurium of Luschka.

XV—Pneumatic left temporal bone showing a deeply posteriorly situated sigmoid sulcus. A—inferior petrosal sinus entering a canal into the jugular bulb; B—Superior petrosal sinus overlying a completely pneumatized petrous tip; C—pneumatic cells posterior and external to the knee; D—complete bridging over of sigmoid with bone at the lower knee and bulb of peculiar shape partially bridged over.



one to become involved. A thrombosis of the bulb occurs in about 12½ per cent, while the petrosals are involved less frequently. The dural veins, the mastoid emissary vein and in children the petrosquamosal sinus account for a smaller percentage of involvement. The bulb usually becomes involved in acute infections, while the sigmoid is affected more frequently in chronic inflammation of the mastoid cells.

In a communication, Oscar V. Batson¹⁷, professor of anatomy, University of Pennsylvania Post-Graduate School of Medicine, who has been kind enough to lend me four of his slides of his original wax corrosion process, states that almost any variation may be found, from total absence on the one hand, through a whole series of multiple channels, to an enormous sinus on the other hand.

Summary

THE reasons for this anatomical review have been given.

The normal anatomy of the lateral sinus has been briefly described.

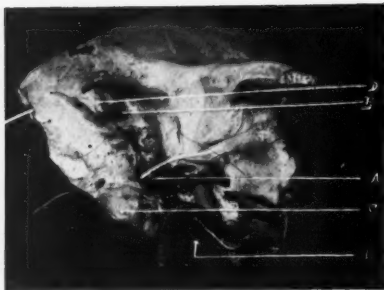
The variations in the size, position and structure of the lateral sinus have been demonstrated by pictures of actual specimens of the temporal bone.

A new arrangement in the classification of the variations of the lateral sinus has been presented.

In concluding this paper I wish to thank the Brooklyn Eye and Ear

XVI—Right temporal bone, internal aspect. A—absence of descending and horizontal limb of the sigmoid sinus; B—string shows course of exit through the mastoid emissary vein; C—very large inferior petrosal sinus forming a very small pseudo-bulb.





XVII—Same as preceding specimen, inferior aspect. A—absence of jugular fossa, string making exit through foramen for inferior

Hospital for the many kindnesses extended in the preparation of these slides and for the opportunity of presenting this paper. I also wish to thank Mr. Burchell for the excellent specimens he has loaned for this occasion, Dr. Batson for his four slides demonstrating his wax corrosion pictures, and those other physicians who have been so kind in permitting the use of their specimens in order to make this little review a success.

petrosal vein posterior to the carotid artery; B—external auditory meatus; C—condyle; D—mastoid tip; E—nasopharynx.

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878 PARK PLACE.

SYPHILIS AS AN OBSTETRIC PROBLEM

1. All cases must be found.
2. No publicity should be entailed in reporting cases.
3. Assistance from public health department should be augmented.
4. Laboratory facilities should be improved. No antepartum clinic can be regarded as being in line with modern ideas and practice which fails to make serological examinations as a routine in all pregnant women.
5. Proper free treatment should be made available for the indigent.
6. Physicians should be prepared to

give adequate treatment.

7. Accurate and adequate records should be kept.

8. Patients should be kept under closer observation and over a longer period of time; and in case of children born of syphilitic women, follow-up should be more thorough than at present.

9. Prevention of new cases and infection of others must be pursued with vigor and persistence.

10. Lastly, and perhaps most important of all, the public must be educated more fully to an appreciation of what can be done.

—Henry B. Kessler, M.D.,
in *J. Med. Soc. N. J.*, March, 1939.

MEDICAL TIMES, JUNE, 1939

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OF CANCER

BEFORE considering the pathological conditions in the breast, a very brief review of the anatomy might not be out of order.

The term, *mamma* or breast, includes not only the glandular tissue but the supporting fibrous tissue and fat with its nerves, blood vessels, and lymphatics. The breast develops from invaginated ectoderm at the point where later the nipple is formed.

The areola around the nipple contains sebaceous glands for lubrication of the nipple during lactation. The secretory glands are racemose in character and communicate with the nipple through the lactiferous ducts. The breast receives its blood supply through four main sources: the pectoral branch of the acromiothoracic artery, the perforating branches of the internal mammary, the long thoracic and the intercostal arteries.

The lymphatic drainage of the breast is most important since through these channels cancer spreads—the lymph vessels are exceedingly numerous and communicate freely: the deep interlobar channels with the periductal and periacinar lymphatics which in turn join the superficial group. While the flow is for

the most part to the axilla, reaching the pectoral nodes, the scapular nodes and finally the axillary and subclavian and even the supraclavicular group, there must be some drainage through the intercostal lymphatics to the mediastinum and thence to the lung. Sappey contends that even the sternal portion of the breast

drains into the axilla rather than into the mediastinal nodes. I cannot subscribe to this statement, however.

A LUMP IN THE *Breast*

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F.A.C.S.

Hempstead, N. Y.

SIR Astley Cooper in the introduction to his treatise on the Anatomy of the Breast, published in 1840, made this statement — "My rule has been to publish that only which I could show to those who were skeptical, and were yet desirous of arriving at the truth." If my opinion differs from yours, please be tolerant as what I shall say is largely based on my short and limited experience.

From birth to adolescence, breast lesions are unusual: the so-called "mastitis neonatorum" is a normal physiological process which only becomes pathological by treatment. Massage with the introduction of bacteria may produce a true mastitis.

At puberty there is marked development of the breasts and with this development the incidence of breast pathology increases. Asymmetrical devel-

Read before the Nassau Surgical Society and the Medical Society of the County of Nassau, at Mineola, November 29, 1938.

opment is not uncommon and in the female rarely causes any great concern.

Gynecomastia—hypertrophy of the male breast—is a condition which frequently requires surgical treatment. In young male adults and children a simple hypertrophy is usually the case, but, in adult males, cancer must always be considered.

Inflammatory lesions are rare in the nonlactating breast and most common in the puerperium and frequently abscesses develop. If superficial or near the nipple these should be opened by radial incision to avoid injury to the larger ducts. If deeply located or in the lower quadrants drainage may be accomplished through the thoracomammary incision.

THE most common lesion in the breast, chronic mastitis, is important not only because of its frequency but the diagnostic difficulties that arise when fibroadenoma, cystadenoma and cancer develop in a breast which is the site of a preëxisting mastitis.

Three forms of chronic mastitis are recognized, interstitial, glandular, and senile. Clinically, these types have much in common: the lesions are not sharply outlined, may or may not be painful, but usually increase in size with the menstrual period and give more or less discomfort. Any part or the entire breast may be involved.

Of the other benign tumors, adenofibroma is the most common. Such tumors, like the cystadenoma, are encapsulated, sharply defined, and sometimes reach considerable size.

Papillomata or epithelial tumors arising from the ducts are definitely precancerous lesions. These may also arise in preëxisting cysts.

COMPLICATIONS OF APPENDICITIS

The high mortality from the complications of appendicitis demonstrates that this problem is far from solved. There is a need for education of the public of the danger of delay in appendicitis and the use of cathartics. All physicians must urge immediate surgery in cases of appendicitis in order to prevent complications and to lower mortality.

The slow developing pathology in most cases of appendicitis indicates there

ANY and every lump in the breast should be considered cancer until proven otherwise. Until we take this attitude, we will continue to see advanced inoperable cancer of the breast. The typical cancer of the breast has certain clinical features with which we all are familiar, namely, painless lump in the breast, which is not sharply outlined and shows in some degree fixation to the skin or nipple as evidenced by retraction of nipple, adherence to skin or skin dimpling, puckering, or pig-skinning. The presence of nodes in the axilla and the size of the breast tumor are not necessarily indicative of the duration of the disease.

The secondary lesions may be larger than the primary—the type of cell may determine the rate of growth.

But the all-important step for us all as clinicians is to institute treatment without delay: the pathologist can answer the academic question, "Is this grade II or IV carcinoma?"

IN conclusion:

1. Make the breasts a part of your routine examination.
2. Examine patient in supine position.
3. Attempt to make a diagnosis whenever anything unusual is noted.
4. Aspiration will frequently solve a diagnostic problem.
5. Be exceedingly gentle in the examination of the breasts, especially when cancer is suspected.
6. There is no place for massage, diet, or conservative treatment in cancer of the breast.

PROFESSIONAL BUILDING.

should be warning in the form of abdominal disturbances to the patient before the acute condition arrives. Those cases of chronic and subacute appendicitis with other associated conditions often indicate operation could be done before the acute condition arrives. There is a very low mortality associated with appendectomy performed between attacks of appendicitis or for chronic appendicitis as compared with a much higher rate in acute cases.

H. J. Mayfield,
in *Tri-State Med. J.*, April, 1939.

MEDICAL TIMES, JUNE, 1939



CONTEMPORARY PROGRESS

Modifications of Induced Nystagmus By Acute Cerebral Lesions

H. R. MERWARTH and E. FEIRING
(*Brooklyn Hospital Journal*, 1:99, April,
1939) report the use of vestibular stimu-

lation with cold water to induce nystagmus, in acute cerebral circulatory lesions in which only one cerebral hemisphere was involved. In patients in whom the location of the lesion was definitely established by neurological examination, tests made early in the course of acute illness showed a typical response: On stimulating the ear on the side of the lesion the quick component of the nystagmus was not elicited, but there was a tonic deviation toward the side of the lesion, while stimulation of the ear on the opposite side elicited a normal induced nystagmus. Vestibular tests on patients admitted in deep coma resulting from acute cerebral hemorrhage did not elicit the quick component of nystagmus on either side, but a tonic conjugate deviation of the eyes toward the side stimulated. The exact degree of coma necessary to abolish the quick phase of the nystagmus has not been determined, as this phase has been elicited on the normal side "with varying degree of impaired consciousness." Except in patients with deep coma tonic deviation of the eyes to the side of the normal hemisphere has not been noted in acute cerebral lesions. One case is reported in which a right hemiplegia indicated that the cerebral lesion was on the left side; the reaction to stimulation of the left ear was normal, suggesting that this hemisphere was not involved by the acute lesion; the response on stimulating the right ear was characteristic of a right cerebral lesion. At autopsy

an extensive subdural hemorrhage was found on the right side. This observation suggests the possible diagnostic value of the vestibular tests in localizing an acute lesion. These findings would indicate that there is a cerebral factor, "however minimal", in the quick phase of induced nystagmus.



NEUROLOGY

COMMENT

Since the publication of our preliminary report, other instances of tonic deviation of the eyes toward the involved side of the brain, with normal responses on the side of the normal hemisphere, have occurred.

The first patient had experienced a severe injury to the brain. At operation both a large subdural hematoma and laceration of the brain were found on the side to which tonic deviation of the eyes occurred.

Another instance was noted in which a patient was admitted to the hospital in deep coma. Stimulation of both ears gave a tonic deviation to the side stimulated. A spinal tap was done and a large quantity of bloody spinal fluid withdrawn. An improvement in the patient's status resulted so that a definite left hemiplegia was demonstrable. At this time caloric stimulation of the ears gave a tonic deviation of the eyes toward the right hemisphere, with normal vestibular responses when the left labyrinth was stimulated. A large intracerebral hemorrhage was found at operation on the right.

The above two cases bear out the observation that in acute cerebral lesions, a tonic deviation of the eyes toward the affected hemisphere may occur.

H.R.M.

Argyll Robertson Pupils in Alcoholism

M. HERMAN (*Archives of Neurology and Psychiatry*, 41:800, April, 1939) notes that it should be recognized that the Argyll Robertson pupil may occur in non-syphilitic disease of the central

nervous system, and that this pupillary reaction should not be considered as invariably indicating a diagnosis of tabes or dementia paralytica. In a review of the literature the author finds that the occurrence of Argyll Robertson pupil has been reported in multiple sclerosis, meningitis, wood alcohol poisoning, arteriosclerosis, encephalitis, diabetes and tumors of the pituitary gland, pons and canaliculi. Moore (1931) has stated that the Argyll Robertson pupil in non-syphilitic disease has certain special characteristics, but even in syphilis various types of pupils may be found, since, as Spiller has pointed out, the Argyll Robertson pupil is of gradual development and may be first noted in one eye. From the standpoint of clinical diagnosis, the author believes it is important to report cases in which an Argyll Robertson pupil occurs, but syphilis can be definitely excluded. He reports 3 cases in which bilateral Argyll Robertson pupil was associated with chronic alcoholism; these 3 cases were found in one year at the psychiatric division of Bellevue Hospital, where from 10,000 to 12,000 alcoholic patients are admitted every year. In each case syphilis was definitely excluded by blood and spinal fluid tests. Various pupillary changes occur in alcoholism, but the occurrence of a true Argyll Robertson pupil is evidently rare. In the cases reported, both pupils were constricted, fixed to light, but reacting to accommodation; in 2 cases they were irregular in outline, in one case regular. In the first case the clinical syndrome was typical of the Korsakoff psychosis,

associated with peripheral neuritis and a pellagrous lesion. In the second case there was an extensive peripheral neuritis in the legs. In the third case the patient was admitted to the hospital in delirium tremens, and the Argyll Robertson pupillary reaction cleared up when the patient recovered from the delirium and became mentally normal. It is possible in such a case that with repeated attacks a permanent pupillary change may result. Whatever pathological lesion is responsible for an Argyll Robertson pupil, it seems evident that it may be produced by conditions other than neurosyphilis.

COMMENT

The reviewer is in absolute accord with the view that Argyll Robertson pupils may be found in conditions other than syphilis of the central nervous system. The three cases as described have the essential qualities as originally defined, viz., miosis, inequality, irregularity, and, most important, a failure to contract to light with preserved responses to a c o m m o d a t i o n . Unless all four qualities are noted the pupil should not be classified as an Argyll Robertson pupil.

More often variations are found. Even in syphilis widely dilated pupils may be found which fail to respond to light but do to accom-

modation. Such a pupil had better be described just as found, for in the minds of historically conscious clinicians miosis is one of the basic essential characteristics of the Argyll Robertson pupil. The usage of "syphilitic" as a characterization of the varying pictures in the pupil in syphilis of the nervous system would be more apt. It is important to note that a typical Argyll Robertson pupil may be found in encephalitis

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but the more common finding is a widely dilated pupil, while an even more common observation is a pupil which fails to respond to accommodation but does to light.

We also have noted defects in the pupillary reactions and even typical Argyll Robertson pupils in our alcoholic cases. As in one of Dr. Herman's cases, the tendency exists for the pupillary activity to return to normal.

Despite the many exceptions it is our teaching that whenever a typical Argyll Robertson pupil is found it is up to the examiner to consider syphilis as the first, and most likely, cause in every case. To create the opposite impression is a dangerous teaching. Another important lesson is that luetic manifestations may exist within the central nervous system in the presence of normal Wassermann reactions. We feel that too much stress is placed on laboratory examinations in modern medical teaching.

H.R.M.

Biochemical Changes in the Cerebral Blood During the Insulin Treatment of Schizophrenia

H. E. HIMWICH and his associates (*Journal of Nervous and Mental Diseases*, 89:273, March 1939) report a study of the biochemical changes in the cerebral blood during insulin shock treatment in 11 patients with schizophrenia, one patient with psychoneurosis and one with depression. In these studies samples of blood were withdrawn practically simultaneously from the internal jugular vein and the femoral artery and analyzed for oxygen, carbon dioxide, glucose, non-fermentable reducing substances, lactic acid, and esterase activity. The analyses were made before insulin was injected, during hypoglycemic coma, and at various intermediate stages. Before insulin was injected, the average oxygen utilization (15 analyses) was 7.04 vols. per cent., and that of glucose 12.5 mg. per cent. After injection with insulin when the patient was in a pre-comatous condition, the average uptake of oxygen and glucose (9 analyses) was 6.19 vols. per cent. and 7.0 mg. per cent. respectively. Twenty-six analyses during coma showed further reduction of oxygen utilization to 3.07 vols. per cent. and of glucose to 4.16 mg. per cent. These studies indicated very clearly that the chief if not the only "foodstuff" of the brain is carbohydrate, for the decreased

oxygen uptake can be explained by the diminished absorption of glucose. The neurological manifestations during hypoglycemia are evidently dependent on the biochemical changes. At first symptoms of excitement and then symptoms of depression are manifested as the cerebral metabolism is depressed; deep coma is always associated with a greatly diminished utilization of oxygen. The changes in the metabolism of the brain and the neurological manifestations are not characteristic of patients with schizophrenia as they were observed in patients with psychoneurosis and depression "and may be expected in normal human subjects as well." The cerebral cortex is the first part of the brain to respond to the depression of metabolism; hence "cortical depression and subcortical release" may be an important phase of the hypoglycemic treatment. But finally the depression of metabolism extends to include all parts of the central nervous system. With developing depression, the author's studies indicate, "both pathological and normal associations are temporarily eradicated, and with a series of such treatments the pathological processes may be finally eliminated. But why the normal processes are restored and the pathological lost still remains to be elucidated."

Progressive Confusional Syndrome Accompanying Injuries of the Cervical Portion of the Spinal Cord

T. J. PUTNAM (*Archives of Neurology and Psychiatry*, 41:298, Feb. 1939) reports 7 cases in which symptoms of "confusion, disorientation, delirium and mild hallucinations" developed several hours or days after injury to the cervical portion of the spinal cord. The author suggests the term "progressive confusional syndrome" for this condition. All but one of the patients was over fifty years of age; 2 patients were definitely arteriosclerotic, one was a morphine addict, and one had suffered from alcoholism. The mental symptoms developed acutely only after injury to the spinal cord. In 6 of the cases examination of the brain at autopsy showed no gross lesions of the brain; in 3 cases in which sections of the brain were also studied, there were no or only "incon-

spicuous" cellular changes. In the seventh case traction applied to the neck improved the respiration and general condition and the mental confusion disappeared; this patient died several months later following operation for an extradural tuberculoma. The evidence indicates that the psychiatric symptoms in such cases are due to a mixed type of anoxia in which embarrassment of respiration, although moderate in itself, "may limit compensation for anemia, low blood pressure or cerebral vascular disease."

COMMENT

A very interesting group of cases. Dr. Putnam has drawn attention to a clinical condition which probably occurs with greater frequency than admitted. The psychosis associated with cardiac decompensation approaches this "confusional syndrome" at times in its characteristics. We have noted individuals with high cervical cord tumors in the elderly who have had a psychiatric picture. The mechanism responsible for the production of the mental features seems to have been developed quite logically by Dr. Putnam, who is to be complimented on drawing attention to this condition.

H.R.M.

Encephalographic Experiences

E. LYSHOLM (*Acta chirurgica Scandinavica*, 82:169, March 18, 1939) states that in the Neurosurgical Clinic in Stockholm, ventriculography has been used chiefly for the localization of brain tumors. But in cases with vague symptoms in which it is necessary to decide whether a cerebral tumor or any other

organic lesion is present, encephalography is used first in cases without pressure symptoms. In cases with slight pressure symptoms—such as some degree of papilledema, encephalography is also employed, carried out by suboccipital puncture and with necessary precaution. The author has found that in cases with "vague cerebral symptoms" encephalography is the best method of ruling out the presence of a cerebral tumor; only in a very few cases has encephalography failed to show the presence of a cerebral tumor. Of the 500 encephalograms made at the Stockholm clinic in January 1936 to October 1938, 293 have been made on epileptics. It was found that 11 per cent. of these patients showed marked dilatation of the lateral ventricles; the incidence of ventricular dilatation was no higher in the older than in the younger age groups. A much higher incidence of cortical atrophy was found in patients over forty than in younger patients.

COMMENT

In these columns we have stated previously that the introduction of air by the lumbar route carries with it certain dangers. Subarachnoid bleeding occurs even in younger patients and may develop in an aggravated form in the very elderly. In the elderly group considerable caution should be exercised before venturing on the introduction of air from below.

Lysholm's method of introducing air by the suboccipital route is of importance. In this connection it is interesting to note that the withdrawal of cerebrospinal fluid from this area is accompanied by little or no headache.

The statistics of Lysholm, particularly in the epileptic group, are significant.

H.R.M.



Physiotherapy in Furunculosis

JEAN MEYER of Paris (*British Journal of Physical Medicine*, 2:72,

March 1939) employs either x-rays or short waves, or the ultra-violet rays in the treatment of furunculosis. He advocates these measures only in severe types of furuncles and carbuncles, or in cases with frequent recurrences. For x-ray treatment penetrating rays well filtered with copper may be employed, or less penetrating rays (100 to 150 kilovolts) with a 1 to 5 mm. aluminum filter; the dosage is moderate, usually about 100 r.

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A developing furuncle or carbuncle may be checked by x-ray treatment. Pain and inflammation of furuncles are relieved in twenty-four hours; but in malignant carbuncle relief is not obtained for about sixty hours. Suppuration is not usually inhibited, but the evacuation of the core and pus is facilitated and healing hastened. Short-wave therapy is used in the same type of case as the x-rays; with the short-wave method, one electrode is placed on the infected area, and the other at a distance; the author has used wavelengths of 7 to 16 meters; the intensity is moderate; the duration of treatment ten to thirty minutes. The ultra-violet rays are employed chiefly in cases of recurrent furuncles, the entire body being treated every other day. Local ultra-violet irradiation may also be employed to hasten the cicatrization of carbuncle lesions; and to secure resolution of "resisting cores of sclerosing furuncles."

COMMENT

During the last few years roentgen therapy in localized infections has gained considerable attention. It took x-ray men a long time to appreciate that x-ray treatment was useful, even though early workers in this field advocated its use many years ago.

Ultraviolet light was supposed to have great curative powers when it became clinically prominent but neither of these modalities has produced the dramatic results that are being achieved today with the use of short wave diathermy in the treatment of furuncles and carbuncles.

The situation might be summed up as follows: X-ray penetrates too much; ultra-violet light is too superficial; but short wave diathermy is more easily and safely applied to just the required depth.

N.E.T.

Ultra-Violet Radiation in Gastro-Intestinal Tuberculosis

J. S. COULTER and L. L. HARDT (*Radiology*, 20:143, March 1939) report the treatment of gastro-intestinal tuberculosis with ultra-violet radiation. The dosage was the same as that used by Coulter and Carter in pulmonary tuberculosis (*J.A.M.A.*, 105:171, 1935). Radiation from both natural and artificial sources was administered by a modified

Rollier method "to secure a faint erythema over increasing areas of the body, starting at the feet." A total of 315 cases were treated, divided into eight groups. One group was given a high vitamin, high mineral "smooth" diet alone; 3 other groups were given various forms of calcium therapy plus the diet. These groups served as controls, and in the other four groups, ultra-violet radiation was employed in addition to the other forms of therapy. After six months treatment, the groups receiving ultra-violet radiation showed a definitely higher percentage of improvement in gastro-intestinal symptoms and of gain in weight than the corresponding groups without radiation therapy. The pulmonary condition in these cases roughly paralleled the gastro-intestinal condition, i.e., those receiving ultra-violet irradiation showed greater improvement than those receiving the same dietetic and calcium therapy without radiation.

COMMENT

Ultraviolet radiation has been used in gastro-intestinal tuberculosis for many years. Since the advent of mercury arc lamps, a modified Rollier technic has been adopted and Edgar Mayer and others early showed the advantage of this form of treatment. The study of these two authors on 315 cases, with the added modern knowledge of vitamin and dietary therapy, shows that more constant results can be obtained through the use of these additional regimens and is a contribution to the general subject.

N.E.T.

The Influence of Ultra-Violet Rays On the Body Weight

F. ELLINGER (*Radiology*, 32:157, Feb. 1939) reports experiments on white mice subjected to the action of ultra-violet rays from a mercury vapor lamp. Daily radiations were given with a dosage producing an erythema of the skin of the ears and tails. One group of mice was supplied abundant nourishment, the other scanty nourishment. In both groups the irradiated animals showed loss of weight, which was more marked in the group on a scanty food allowance. This weight loss tended to diminish after about fourteen days, so that the weight curve of the irradiated

animals after that time approached that of the controls in both groups. The weight loss was apparently associated with the development of the erythema, and by increasing the exposure time, the rising of the weight curve after the fourteenth day could be stopped again. Further study indicated that the weight loss in the first fourteen days was associated with increased activity of the thyroid. Since the effect on the weight curve depended to a great extent upon the degree to which the skin was "light-accustomed", the author is convinced that histamine-like substances formed in the skin play a decisive role in the ray effects. The author suggests that the use of the ultra-violet rays by a method that would prevent the skin from becoming "light-accustomed" to too great a degree, combined with low caloric diet, might be successfully used for weight reduction.

COMMENT

The effect of general baths of ultraviolet light in increasing metabolism has always been appreciated although to just what extent has not been as carefully studied as shown in the contribution above.

As far back as 1924 the effect of erythema and sub-erythema doses on the blood sugar of diabetics was reported and cases of thyrotoxicosis from too much ultraviolet light have been known.

Mason of McGill University reported a series of cases where very young girls had received ultraviolet baths over a period of years and results showed that they became sexually matured much sooner than they should have.

This work of Ellinger's seems to show that the effect of increased metabolism tends to wear off after two weeks. Similar studies in human beings would be interesting, if possible, as a guide to estimate the total amount of energy necessary to produce hypo- and hyper-activity in the endocrine system.

N.E.T.

The Treatment of Acute Pneumonias With Roentgen Rays

E. V. POWELL (*American Journal of Roentgenology*, 41:404, March 1939) notes that since January, 1933, he has been employing Roentgen rays in the treatment of pneumonia. At that time serum was not being used in treatment, but the same methods of general treat-

ment were employed in the cases treated with the Roentgen rays as in the control cases. While in the earlier groups of cases, the organisms found in the sputum were not typed, in the last group of 49 cases, typing was done; of these 11 were of Type I, 5 of Type II, 6 of Type III and 19 of other types formerly included in Group IV; 8 patients showed mixed infections with organisms other than the pneumococcus. The author has treated 105 cases of lobar pneumonia and 30 cases of bronchopneumonia with the Roentgen rays; there were 5 deaths in the lobar pneumonia group and 4 in the bronchopneumonia group—a mortality of less than 5 per cent. and 13 per cent. respectively. Previous to the use of the Roentgen rays the mortality in the hospital was 29 per cent. for lobar pneumonia and 30 per cent. for bronchopneumonia. The technique employed is to give 250 to 350 roentgens, using 135 kv., 3 mm. aluminum filter, and a 40 cm. skin-target distance. The total dosage on the skin is larger than is generally used in acute conditions, but the depth dosage is not large. As soon as the diagnosis of pneumonia is established (without waiting for sputum typing) treatment is given anteriorly or posteriorly over an area a little larger than the involved portion of the lung. The only contra-indication is a definite leukopenia such as is found in some post-influenzal pneumonias. Patients have been treated in all stages of the disease from the first day to the eleventh day (in one case). Most of the patients show relief of distress and general symptomatic improvement within a few hours, and more than one-third have shown a drop in temperature to normal or below within thirty-six hours after treatment. If the Roentgen treatment is given before consolidation is complete, it may spread, but the patient shows the same improvement in general symptoms, temperature, pulse and leukocyte count. If the temperature does not return to normal within thirty-six hours, another treatment of 200 r. may be given over the opposite skin area. Cases with mixed infection sometimes required more than two treatments with successively smaller doses. Bronchopneumonia does not respond as constantly to Roentgen-ray therapy as lobar pneumonia, but the

author is convinced that the mortality from bronchopneumonia is, nevertheless, definitely reduced by Roentgen-ray therapy.

COMMENT

This paper is typical of the present wave of enthusiasm that is being shown by roentgenologists in the treatment of infections with roentgen rays. It is hoped that such work will advance and that the exact way in which x-rays affect the pathology will be ascertained.

N.E.T.

Four Physiotherapeutic Devices for the Treatment of Peripheral Vascular Disease

H. MONTGOMERY and I. STARR (*American Journal of Medical Sciences*, 197:485, Apr. 1939) describe four physiotherapeutic devices that have been successfully used in the treatment of peripheral vascular disease at the University of Pennsylvania Hospital, for periods of one to four years. The first device described is a simple thermoregulator for use in foot cradles. This thermostat is hung inside any leg cradle, and adjusted, "usually by the patient himself", to the temperature that gives the maximum degree of comfort. This apparatus is used chiefly in the relief of pain from peripheral vascular disease. The feet of hospital patients are maintained at the desired temperature constantly while they are in bed; if patients must leave the hospital before pain is relieved, the thermoregulator is used at home. Some arteriosclerotic patients who suffer from cold feet, but not pain, obtain great relief by using the thermoregulated cradle at night. Another apparatus described is a simple apparatus for application of alternate suction and pressure to the fingers. This may be used by the patient at home, for the treatment of advanced thrombo-angiitis obliterans of the fingers. It has been employed in 4 cases with good results, improving the color of the finger involved and relieving pain. The third apparatus is designed for giving drugs by iontophoresis; it is inexpensive and is constructed from standard radio parts. The authors have employed this apparatus for mecholyl iontophoresis in cases of

varicose ulcer, chronic thrombophlebitis and scleroderma (20 cases) with good results; only 3 patients, one in each group, failed to show definite improvement; 3 cases of varicose ulcer were healed; the other cases showed definite improvement. The fourth apparatus is a bed so adjusted that the legs can be within a thermoregulated cradle and at the same time be dependent, level, or elevated, according to which position gives greatest relief from pain. Its greatest usefulness has been found to be in the treatment of patients whose pain is relieved by the dependent position.

COMMENT

The promiscuous use of any therapeutic device for the treatment of peripheral vascular disease is to be condemned. These authors mention four that have specific uses for certain conditions and it is with such discretion that gratifying results can be obtained.

The authors, however, omitted one that seems to be successful in the hands of some workers and that is the use of the whirlpool bath. It is to be hoped that they will study this method of applying heat with mild mechanical stimulation of circulation.

It is gratifying to see that they are not victims of enthusiasm for using diathermy. Too much diathermy is applied where it is either contraindicated or by simple reasoning can not be expected to produce satisfactory results.

N.E.T.



INDUSTRIAL MEDICINE AND SOCIAL HYGIENE

Combined Diphtheria Toxoid and Tetanus Toxoid, Alum Precipitated

F. G. JONES and J. M. MOSS (*Journal of Laboratory and Clinical Medicine*, 24:512, Feb. 1939) report a study of the

immunity produced by injections of combined diphtheria toxoid and tetanus toxoid (alum precipitated) in a group of medical students. Experiments have indicated that at least two doses of toxoid are required to produce an immunity to tetanus. Six months after the first injection the students were divided into two groups; one group was given the Schick test and then injected with alum-precipitated tetanus toxoid. The other group was given another injection of the combined diphtheria and tetanus toxoids. Four weeks after this "stimulating dose" the sera were tested for antitoxin content; both the diphtheria antitoxin and the tetanus antitoxin content had markedly increased in both groups, as compared with the antitoxin content prior to this stimulating dose; the authors call attention to the marked increase in diphtheria antitoxin produced by the Schick test in these subjects. In the six months after the first two immunizing injections of the combined toxoids, the diphtheria antitoxin titer showed a drop of 64 per cent., and the tetanus antitoxin titer a drop of 72 per cent. Repeated tests showed that six months after the third "stimulating dose" the diphtheria antitoxin titer had dropped only 28 per cent., and the tetanus antitoxin titer only 42 per cent. These findings indicate that the third ("stimulating") dose of toxoid not only produces a marked increase in antitoxic titer of the serum, indicating an increased immunity, but also prolongs the duration of the immunity. In some individuals the tetanus antitoxin titer was so high a year after the first two immunizing injections, that their immunity was probably of such degree as to protect them against tetanus in case of an injury. The authors are of the opinion, however, that an injection of tetanus toxoid should be given whenever there is a possibility of tetanus infection in persons previously given immunizing injections. A large group of children has been given injections of combined diphtheria and tetanus toxoids, and the authors expect to follow up the results over several years. Their findings so far have convinced them that two injections of toxoid are better than one for establishing immunity and that a third

"stimulating dose" produces not only a greater degree of immunity but also a prolongation of such immunity. "The use of the combined toxoids does not interfere with the specific immunity response."

COMMENT

The work of the authors sheds a new and interesting light on the subject of immunization with diphtheria and tetanus toxoid. The time has definitely arrived for public health workers in general to have an understanding of the degree and duration of protection afforded against diphtheria and tetanus following inoculation with toxoid. There has been the distinct danger of being lulled into a sense of false security following inoculations with primary doses of diphtheria and tetanus toxoid. Until comparatively recently there have been no studies to determine the duration or quantitative degree of immunity following injections with either diphtheria or tetanus toxoid. Thus this particular contribution opens a new and promising field in immunology.

M.L.G.

The Types of Hemolytic Streptococci Found in Scarlet Fever Patients and in Throats of Grammar-School Children

J. H. BAILEY (*American Journal of Hygiene*, 29: Sect. B 107, March 1939) reports a study of the types of streptococci found in cases of scarlet fever during the epidemic of the disease in Chicago in 1934 to 1935, and of the types of streptococci found in the throats of grammar-school children during the epidemic. In the cases studied, the types of streptococci occurring most frequently were Griffith's types 2, 3 and 6; no difference in virulence could be found in these three types on the basis of the presence of complications. The author notes that the high incidence of type 6 in this series is of interest as this is the type of hemolytic streptococcus frequently found in tonsillitis and sore throat in England, but rarely in scarlet fever. In a small but appreciable number of cases of scarlet fever in this epidemic the causative organism was a type of streptococcus frequently found in erysipelas. In the three grammar school studies, the percentage of carriers of hemolytic streptococci was no higher in

the school where scarlet fever was epidemic than in the two schools where the disease was not occurring. There was little difference in the total incidence of types in the three schools although the incidence of type 6 was higher than that of any other one type in all schools. In all the schools, the carriers of hemolytic streptococci harbored types that most frequently cause scarlet fever. Approximately 90 per cent. of these carriers harbored strains that produced toxin neutralized by scarlet fever antitoxin. The data presented indicate "a close bacteriological relationship between the types of hemolytic streptococci frequently found in scarlet fever and those found in the throats of grammar school children." The incidence of various individual types may vary from place to place or from year to year but, as a group, the types found in the throats of school children are the same as those frequently causing scarlet fever; and it is possible that "the reservoir of epidemic scarlet fever" is to be found in these apparently well children.

COMMENT

Health officials and school health workers have long speculated on the matter of propagation of scarlet fever among children. The periodic fluctuations in prevalence of the disease have long been known. The significant fact that apparently well children may harbor strains of hemolytic streptococcus immunologically related to scarlet fever antitoxin has been discovered through this study. It has been the policy of many health departments, in recent years, to exclude such school children from schools and contacts with other children until at least two successive negative cultures for the hemolytic streptococcus have been obtained. Among some agencies this practice has been open to question. It is of importance, therefore, to note the results of the studies of the disease in Chicago during the epidemic of 1934-35.

M.L.G.

The Cement Burn

J. M. MEHERIN and T. P. SCHOMAKER (*Journal American Medical Association*, 112:1322, Apr. 8, 1938) have treated 60 cases of cement burns in

workingmen employed in building enterprises in which large quantities of concrete are used. They have found that cement burns differ from both thermal and acid burns in their symptoms, pathological changes and treatment. There are five factors involved in the production of such burns—the abrasive action of the concrete, friction by wearing apparel and the rubbing of contiguous anatomic parts, the heat of the solution while slaking (a minor factor), the hygroscopic action of lime with its consequent cellular destruction, and the corrosive action of lime as an alkali. "Since the alkaline albuminates are soluble in the alkalis, they are redissolved and reprecipitated so that destruction continues until the alkali is dissipated." In cement burns the epithelium is destroyed down to the corium and is replaced by a pseudodiphtheritic membrane; later the necrosis continues into the deeper tissues in the region of amorphous calcium deposits. There is a latent period before the burn becomes painful, but when once the caustic action has begun, pain is persistent. Infection developed in 20 per cent. of the cases treated by the authors, indicating a marked susceptibility to this complication in such cases. Treatment is begun with the application of a soothing ointment to loosen the crusts. After removal of the scab, the further treatment is that of a simple, acute ulcer, if infection has not developed. "After clean granulations appear, the use of cod liver oil in an ointment has proved satisfactory." The best methods of prophylaxis are thorough washing of the exposed parts as soon as possible after contact with cement and concrete, and the application of "a heavy petrolatum ointment" to parts frequently involved.

COMMENT

In view of the fact that the literature with reference to the subject of cement burns has been rather scant, this contribution merits careful consideration. This contribution by Meherin and Schomaker, of Stanford University School of Medicine, is highly informative, and represents a thoroughly comprehensive study of the problem. Of course, this subject is of special interest to industrial physicians and surgeons.

M.L.G.

Industrial Dusts and the Mortality From Pulmonary Disease

A. J. LANZA and R. J. VANE (*American Review of Tuberculosis*, 39:419, Apr. 1939) note that present day clinical and laboratory studies have shown that serious damage to the lung tissue is caused by dusts containing silica and asbestos, but indicate that relatively little damage is caused by other dusts. The authors present a study of recent mortality statistics with reference to the effect of industrial dusts on mortality from pulmonary disease. These statistics are incomplete in regard to many factors of this problem but they do show very definitely so great an increase in the death rates from tuberculosis in workers exposed to free silica dust as compared with men in other pursuits that there is "little room for doubt that silica is implicated." A high mortality from pneumonia is also associated with the silica trades; whether silica acts as a predisposing cause of the disease, or whether it causes lung damage that renders the prognosis more unfavorable cannot be determined from the data available. Recent mortality statistics show higher than average death rates from tuberculosis among men in occupations which involve exposure to organic dusts, but these mortality rates do not approach the extremely high rates associated with exposure to silica dusts, nor is there evidence that the excess mortality can be attributed to damage to lung tissue caused by these organic dusts. Further investigation of the relation between dust inhalation and acute pulmonary disease is needed to guide the work of the industrial physician in this field.

COMMENT

The correlation between mortality from pulmonary disease and an occupational history of exposure to silica dusts appears to be a definite one. Damage to the lung tissues, over a period of time, by the hard particles of silica dust, conceivably lowers the resistance of these tissues to the point where specific infections, such as tuberculosis or pneumonia, more likely than not, lead to the death of the patient. Insurance companies have come to appreciate this fact and are

bending their efforts to the provision of better protection for workers against silica dust inhalation. Considerable progress is being made in the development of protective devices such as respiratory masks as well as improvement in the methods used whereby the amount of dust concentration in the air is reduced.

M.L.G.

The Prevention of Congenital Syphilis

M. L. DAVIS (*Journal of Social Hygiene*, 25:16, Jan. 1939) notes that pregnancy may modify the clinical picture of even an active syphilis; of 1676 pregnant women in whom the diagnosis of syphilis was made by serological examination in the New York City Health Department clinic, not more than 3 per cent. had any active clinical manifestation of the disease. Hence "a reliable blood test" is essential in the examination of every pregnant woman. Every pregnant woman who has been found to be syphilitic should receive treatment as early in pregnancy as possible. Yet even if treatment is started late, results are better than when no treatment is given. The author employs the alternating-continuous - arsphenamine - bismuth method in pregnant women. Injections are given weekly unless treatment is begun after the eighth month, when they should be so planned that the arsphenamine is given in the weeks just prior to delivery. Treatment need not be intensive or drastic; a total dosage of 4 gm. arsphenamine and 10 to 12 injections of bismuth is regarded as the minimum protective dose. With adequate treatment, "the possibility of a live healthy baby is about 9 chances to one." Apparently healthy infants born to a syphilitic mother should be kept under careful observation and repeated serological tests made. Treatment is indicated only if a definite diagnosis of congenital syphilis is made.

COMMENT

In the nation-wide public health campaign against syphilis no greater tangible progress is perceived than in the reduction of congenital syphilis. In states where the syphilis campaign has been most active there has been, already, a notable decline in the incidence of congenital syphilis. On this

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basis some syphilologists have been inclined to predict that in the ultimate reduction of the disease to its lowest possible endemic prevalence, the congenital type will eventually become a rarity. Some observers have noted that pregnant women do better with syphilis than the non-pregnant. The reason for this phenomenon is yet to be explained. It would be of interest to follow

the incidence of congenital syphilis in the states which have statutes requiring prenatal blood tests for syphilis, in comparison with those states that have not as yet adopted such legislation. New York, New Jersey, and Rhode Island are the three states that have pioneered in this direction. No doubt others are soon to follow.

M.L.G.



Automatic Trephine for Glaucoma

A. S. GREEN and M. I. GREEN (*Archives of Ophthalmology*, 21:328, February 1939) consider that the Elliott trephine operation for glaucoma is "right in theory and correct from a mechanical point of view"; the chief cause of failure of this operation is trauma. In order to reduce trauma to a minimum, the authors have designed and used an automatic trephine for the Elliott operation. In using this trephine, the conjunctiva is dissected downward according to Elliott's technique about 1 mm. beyond the limbus. The trephine is wound up fully and applied without pressure to the spot where the disk is to be cut; this should include half cornea and half sclera. The release button is then pressed, but the instrument withdrawn after two or three revolutions to avoid penetrating the eye too suddenly; it is then reapplied and the disk cut through. The cutting edge of the blade of the trephine is very sharp; there is a small "shoulder" slightly less than 1 mm. from the edge to prevent its penetrating too deeply. The blade is made in two sizes, 1.25 mm. for eyes with high tension, 1.75 mm. for those with low tension. As soon as the iris presents in the wound "in the form of a hemisphere", it is snipped with the iridotomy scissors to permit the aqueous to escape. As an

iridectomy is not done, the iris will have no hole. This trephine has been used since March 1930 for operations on all types of glaucoma, acute and chronic. Complications have been reduced to "a small percentage", which has resulted in a high percentage of operative cures, and a marked decrease in the period of hospitalization.

COMMENT

Automatic and semi-automatic trephines have been used for a good many years. They have been superseded by the simple original instrument because there seemed to be no advantage in their use. One of the most intriguing features of all filtration operations for glaucoma is the "quiet iritis" that follows successful operations and which does not seem to interfere with the patient's vision in the usual case. A large proportion of cases after trephining develop fibrin deposits on the posterior surface of the cornea with pigment and numerous synechiae. No explanation has been given for this but every surgeon would like to avoid it if he could. It was proposed at first to uncover the operated eye on the third day after operation for an hour morning and afternoon, increasing the exposure daily from that point. The "iritis" was more pronounced and more common then than when one waits until the chamber has been fully re-established. Many things have been proposed to obviate this condition and the mechanically driven trephine is one of them. If it could accomplish this, the complication would not be with us now.

R.I.L.

The Results of Squint Operations

F. A. KIEHLE and G. H. HENTON (*American Journal of Ophthalmology*, 22:422, April 1939) report the results of operations for squint performed in the

last ten years at the ophthalmological clinic of the University of Oregon. These operations were done by a number of different operators, employing different methods, and the series can therefore be considered as "a fair cross section" of the results of muscle surgery in squint. The patients were nearly all children, the average age being 10.9 years. The esotropia cases greatly predominated, there being 241 cases of this type, 31 cases of exotropia, 8 cases of vertical phoria. Only nonparalytic cases are included. In 214 instances, one of the so-called "weakening" operations was done—170 partial tenotomies, 44 recessions. Shortening operations, 250 in all, included 43 advancements of various types, 56 resections, 38 tuckings and 113 cinch operations. As a rule only one eye was operated; in 8 cases bilateral tenotomies or cinch operations were done. In 17 cases operations on the two eyes were done at different times. The average amount of esotropia prior to operation was 27 degrees, and the average amount of exotropia was also 27 degrees. After operation the average amount of esotropia was 13 degrees and of exotropia 14 degrees. The results obtained by various operators were very similar. One postoperative death occurred. In one case the sclera, which was abnormally thin, was cut through at the point of a tenotomy, and vision has since been much reduced. There were no other serious complications or sequelae. The authors conclude that these results indicate that no single operative procedure can produce perfect results in all cases of squint. Dexterity in carrying out any technique of the operations for squint is "the great desideratum"; and the average operator, after a careful study of cases, "will do well" to limit himself to a single type or a few types of operation and perfect his technique in these types.

COMMENT

Muscle surgery is one of the finest achievements of ophthalmology. Only those who have seen the results of the "free tenotomy" of the 1890-1900 era can realize what advances have been made. Part of this improvement is the result of better preparation of the specialist and the larger number of oculists who have served as internes in eye hospitals.

R.I.L.

Common Wart as an Etiologic Factor in Certain Cases of Conjunctivitis and Keratitis

A. DE RÖTH (Archives of Ophthalmology, 21:409, March 1939) reports 10 cases of unilateral conjunctivitis associated with warts on the eyelid of the affected eye; and an additional case of bilateral conjunctivitis with warts on both eyelids. The conjunctivitis in most of these cases was of the subacute type with moderate inflammation and slight swelling of the conjunctiva, a smooth surface and little discharge. In 4 of the unilateral cases, keratitis of various types was associated with the conjunctivitis. In all these cases the eye lesion was resistant to the usual types of treatment, yet it cleared up promptly several days after removal of the warts. The only patient who showed no improvement was one who refused to have the warts removed. In such cases there is no clinical identity between the wart and the conjunctivitis or keratitis, i.e., there are no wartlike products on the conjunctiva or the cornea. This is due to "the different reactivity of these tissues as compared with the skin." It is true also of the eye lesions associated with molluscum contagiosum and other viruses of inclusion diseases of the skin. The author points out that the conjunctivitis associated with warts of the eyelids closely resembles molluscum conjunctivitis, and he is of the opinion that "all inclusion diseases of the skin are able to attack the eye."

Results of Vitamin-D-Complex Treatment of Keratoconus

A. A. KNAPP (American Journal of Ophthalmology, 22:289, March 1939) notes that experiments on dogs and rats conducted by Blackberg and himself showed that a vitamin-D-deficient, low calcium diet produced keratoconus in these animals. Eleven patients with keratoconus, 7 of whom showed bilateral involvement, were treated with viosterol and calcium. The viosterol was given in a dosage of 60 drops daily after the morning meal; more recently a larger dosage has been used, up to 200 drops daily. Calcium was given before meals

in the form of a mineral mixture tablet; the dosage varied with the amount of milk that the patient drank; if the patient took a quart of milk daily only one tablet daily was given; for each glass less than one quart two tablets were ordered; hence if the patient drank no milk, nine tablets daily were given. The 11 patients have been under observation for periods varying from three months to three years. In every case there was definite improvement in vision; and also objective improvement as shown by macroscopic, corneal microscopic and ophthalmometric examinations and cycloplegic refraction. Plaster-of-Paris casts have been made of 6 eyes before treatment and three to six months after treatment; the later series of casts showed flattening of the cone in all cases; and reduction of height of the cone in 5 of the 6 eyes. But as the height of the cone was measured by taking a chord of the anterior segment of the eye, using a fixed base line, it is probable that the increase in the height of the cone in the sixth case was only apparent and was due to shrinkage of the cornea. The author concludes that vitamin-D complex is of definite value in the treatment of keratoconus, but "its proper position" in the therapeutics of this condition must be determined by further research.

COMMENT

Keratoconus is one of the problems left over from the previous generation of ophthalmologists. The use of contact lenses, not only because they improve the vision, but because they support the weakened cornea, is the first practical measure discovered. The condition is so unfavorable and so uncertain in its behavior that this recommended measure must be given the time necessary for sound judgment. It should be tried in early cases and, if they can be halted, much good will be accomplished. It is not reasonable to expect much in an advanced case.

R.I.L.

Alcohol-Tobacco (Toxic) Amblyopia Treated with Thiamin Chloride

L. V. JOHNSON (*Archives of Ophthalmology*, 21:602, April 1939) notes that recent studies have shown that toxic amblyopia with centrocecal scotomas and relatively larger scotomas for green than red, is associated with vitamin B deficiency; treatment with brewers' yeast or other forms of vitamin B (complex) definitely hastens clinical improvement in this form of amblyopia. In order to determine which of the vitamin B factors, if any, would give therapeutic results similar to those obtained with brewers' yeast, the author used thiamin chloride (B₁) in 5 cases of toxic amblyopia due to excess use of alcohol and tobacco. In all but one of these cases vision improved rapidly under treatment with thiamine chloride in doses of 12 mg. daily and abstinence from both alcohol and tobacco. In the one case that did not improve the patient had been treated several times for acute alcoholism and there was definite atrophy of the papillo-macular bundle. Two of the patients resumed the use of alcohol and tobacco, sometimes to excess, but while continuing to take thiamine chloride showed no marked deterioration in vision.

COMMENT

We sincerely hope this treatment will accomplish much. It is amazing how a person who abuses both alcohol and tobacco (and also abuses the physician who advises abstinence) can continue his old habits and emerge with good vision. If one can get the offender to cut down the alcohol and tobacco, for a time, it is amazing how well the vision can be restored. During prohibition, the visual defects were more permanent and resisted all treatment, but with purer, though probably younger, liquor in use, the outlook is better. All drug addicts ask cures without deprivation of the particular narcotic they prefer. These patients have been a great problem and will continue to be, in all likelihood.

R.I.L.



MEDICAL BOOK NEWS

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Edited by Alfred E. Shipley, M.D., Dr. P.H.

Salient Features of Internal Medicine

THE FUNDAMENTALS OF INTERNAL MEDICINE. By Wallace M. Yater, M.D. New York, D. Appleton-Century Company, [c. 1938]. 1021 pages, illustrated. 4to. Cloth, \$9.00.

Among the many favorable features of this work are the summaries at the end of each subject which are of value because they give at a glance the essence of that subject. The book also emphasizes important statements made in the discussion of a subject by heavy type. The many excellent anatomical and roentgenological illustrations add much to the value of the work.

For the student in particular after his assigned study in the text, if he adds the information so succinctly given in this work, he will be better prepared not only for class but will also have a more practical conception of the subject matter. As an example of the practical presentation of a topic, the illustration (fig. 64) is selected which shows the size and appearance of the kidneys in a case of chronic glomerular nephritis and the size and bulk of the heart in such a case. The essence of an entire chapter on the subject is contained therein.

It seems that the general compactness characterizing this volume is maintained at the sacrifice of adequate discussion in the presentation of the chapter on

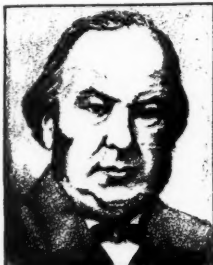
Diseases of the Blood and Blood-Forming Organs. A chapter dealing with so important a subject and one attracting so much attention and interest, should have more than 43 pages devoted to it, especially since it includes many of the related topics such as the Leukemias, Hodgkin's Disease, Lymphosarcoma, the Purpuras, Hemophilia, etc.

The sections on Diseases of the Nervous System and on Mental Diseases serve as a simple, compact, readily understandable introduction to these subjects.

The inclusion of the specialties, Skin, Eye and Ear and one on Dietetics complete the volume. It is not expected that this work will replace the text. The busy practitioner and especially the medical student after studying his topic in the more detailed textbook

will find the method of presentation characteristic of this work a valuable aid to more firmly fix in his mind the essentials of a disease.

SIMON R. BLATTEIS.



Claude Bernard
1813 ~ 1878

Classical Quotations

● The investigator should have a robust faith and yet not believe.

Claude Bernard

Introduction to the Study of Experimental Medicine.

Rede Lecture on Viruses

VIRUS DISEASES AND VIRUSES. By Sir Patrick P. Laidlaw, M.A. New York, Macmillan Company (Cambridge University Press), [c. 1938]. 52 pages. 12mo. Cloth, \$9.00.

This distinguished scientist has published many important contributions in

MEDICAL TIMES, JUNE, 1939

YOU may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the **MEDICAL TIMES**, 95 Nassau Street, New York, N. Y.

the field of viruses. In this lecture he presents in a clear and concise manner the more important viruses and their disease producing capacities. Regarding the nature of these very important principles Sir Laidlaw is inclined to the view that neither the cellular nor chemical theories are entirely correct. To him certain viruses represent highly specialized parasitic agents which find only within the cells of their hosts the substances they need for growth. Other viruses may actually be nucleo-proteins. The reading of this small text will prove instructive and enlightening.

MORRIS L. RAKIETEN.

Clinical Malignancy

CANCER, ITS DIAGNOSIS AND TREATMENT. By Max Cutler, M.D. and Franz Buschke, M.D. Philadelphia, W. B. Saunders Company, [c. 1938]. 757 pages, illustrated. 4to. Cloth \$10.00.

This volume of seven hundred and fifty-seven pages with three hundred and forty-six plates and illustrations covers concisely the entire subject of Cancer as it may involve every organ and structure in the body. Excellent chapters on Radiation Therapy, Biopsy, and The Spread of Cancer act as an introduction to the clinical aspect of the disease. Our increasing knowledge of this disease and recent changes in the method of its treatment justify the appearance of a volume such as this.

Cancer of the central nervous system is not included. This subject belongs to the neurosurgeon rather than to the general surgeon. Recognition of the earliest forms of cancer is very properly stressed. Following this the symptomatology is well described and the modern accepted treat-

ment is given. Fifty-six tables giving the statistics of the results of various forms of cancer, acquaint the reader with the present results of the treatment of this dreaded disease.

The authors have personally had a wide experience in handling cancer and have used many statistics from the Veterans Administration of Tumor Clinics. About eighty-one pages are devoted to cancer of the gastro-intestinal tract. Sixty-nine pages describe tumors of the breast and indicate the specific treatment of each type of growth found in this organ. A very excellent chapter on bone tumors and on carcinoma of the pelvic organs give a thorough résumé of the disease as found in these structures. A useful future is predicted for this work; as a reference for the student of medicine, for the general practitioner, and for the general surgeon we believe it is unsurpassed. As might be expected one may not agree in every detail concerning the treatment of the various lesions. However, the authors have presented in a unique manner, their experiences, their results, and their recommendations. The reviewer believes that the book will receive a hearty welcome from the Medical profession.

MERRILL N. FOOTE.

Interpretation of Dreams

THE LANGUAGE OF THE DREAM. By Emil A. Gutheil, M.D. New York, The Macmillan Company, [c. 1939]. 286 pages, illustrated. 8vo. Cloth, \$3.50.

From time immemorial dreams held the interest of mankind. Very little progress was made in the understanding of dreams until Freud discussed the subject and gave his interpretation of dreams. Since then much has been written about it in different psychiatric and psychological journals. There was a need for a volume that would incorporate most of the contributions made in this field. The book under discussion is just such a volume.

The author discusses various phases of dreams; their mechanisms, their symbolic significance, their active interpretations, their relationship to the neuroses and many other aspects of the subject. There is a bibliography attached to the book and a glossary which are of considerable help to the novice in this field.

The author not only gives Freud's interpretations but also those of other workers such as Stekel and Adler. It is a good book that supplies a long needed want. It is highly recommended not only to those who work in psychiatry but to all others who are interested in human behavior and its abnormalities.

IRVING J. SANDS.

Introduction to Medical Diagnosis

SYMPTOMS AND SIGNS IN CLINICAL MEDICINE. An Introduction to Medical Diagnosis. By E. Noble Chamberlain, M.D. Second edition. Baltimore, William Wood & Company, [c. 1938]. 435 pages, illustrated. 8vo. Cloth, \$8.00.

This is a book of convenient size nicely arranged and well illustrated, which covers the essentials of physical diagnosis for the medical student or physician who wishes to refresh his memory. In this edition a change has been made in gathering together in two chapters at the end of the book, all laboratory procedures, medical operations and instrumental investigations.

The section on nervous diseases is particularly useful for quick reference, and there is a special chapter on the examination of sick children.

W. E. MCCOLLOM.

Heredity in Mental Disorders

THE GENETICS OF SCHIZOPHRENIA. A Study of Heredity and Reproduction in the Families of 1087 Schizophrenics. By Franz J. Kallmann, M.D. New York, J. J. Augustin Publisher, [c. 1938]. 291 pages, illustrated. 8vo. Cloth, \$5.00.

This book represents the task of investigating 1,087 schizophrenic patients and their blood relatives, including their direct ancestors and their direct and collateral descendants, a total of 13,851 persons. There is a collection of data upon which some enlightening conclusions seem to be based with respect to heredity in this group of patients. There is small doubt that schizophrenia is hereditary and a recessive trait. There is the important deduction that fertility is lowered, mortality is heightened, and the appearance of schizophrenia or schizoid traits in a direct or indirect descendant is frequent, more so, perhaps, than some of us have liked to believe.

Indications for eugenic prevention seem clear and relate to control of marriage and propagation. The much talked of sterilization seems to have little sup-

port. There is emphasized the high incidents of tuberculosis in schizophrenics and those predisposed to it.

The book is a timely contribution and should go far to clarify our knowledge of heredity in this form of mental disease. Much credit is due any investigator who can accumulate such a mass of data.

A. E. SOPER.

Neuro-Muscular Rest

PROGRESSIVE RELAXATION. A Physiological and Clinical Investigation of Muscular States and Their Significance in Psychology and Medical Practice. By Edmund Jacobson, M.D. Chicago, University of Chicago Press, [c. 1938]. 494 pages, illustrated. 8vo. Cloth, \$5.00.

Dr. Jacobson is well known in the field of physiology having to do with neuromuscular hypertension and its effects. The volume content represents thirty years' experience in theory, experiment, and practical application demonstrating such a factor as cause and element of various disease processes. New material since the 1929 edition includes original electrical methods of measuring amounts of relaxation secured. The bibliography is exhaustive, surveying source material from 1690 to publication date. The author's system, or method, of progressively abating neuromuscular tension by subjective training is scientific and practical. A thorough presentation of its subject, the volume may be recommended to anyone interested in seeking an accessory method of relaxation for psychologically sound patients.

IRVING M. DERBY.

Trauma and Medical Testimony

THE RELATION BETWEEN INJURY AND DISEASE. By Jewett V. Reed, M.D. and Charles P. Emerson, M.D. Indianapolis, The Bobbs-Merrill Company, [c. 1938]. 577 pages, illustrated. 4to. Cloth, \$7.50.

This volume is entirely new in its field, and was especially written for use in three professional groups—officials of insurance companies which carry the various types of casualty risks; lawyers who present, either pro or con, accident cases before courts and boards; and physicians and surgeons.

The arrangement of chapters is as follows: Acute Infectious Diseases, Physical and Chemical Traumata, Diseases of the Blood Building Organs, Metabolic and Deficiency Diseases, Diseases of the Heart and Blood Vessels,

Organs of Respiration, Digestive Tract, Genitourinary Organs, Nervous System, Disease and Injuries of the Bones, Muscles and Bursae, also Injuries of the Eyes, and to the Hearing Apparatus.

In a brief manner, and in titles that can be understood by the layman, the authors have discussed effects of various diseases upon injuries and the changes which take place in different organs as a result of injury.

It is a helpful work for reference and guidance to the physician or surgeon appearing in court to offer testimony relative to trauma. R. F. HARLOE.

X-ray of Digestive Tract

CLINICAL GASTROENTEROLOGY. By Horace W. Soper, M.D. St. Louis, The C. V. Mosby Company, [c. 1939]. 314 pages, illustrated. 4to. Cloth, \$6.00.

This book presents a most beautiful array of x-ray reproductions covering the findings in practically all diseases of the gastrointestinal tract. The author, in wishing to "clarify a subject that has become entirely too complex", has written a compact work based on long clinical experience and on his interpretation of physiologic knowledge in his field. While many of the author's opinions may be open to controversy, the simple, concise method of presenting each subject is to be commended and the methods of treatment will undoubtedly produce results. The book is recommended as a valuable addition to the reference literature of the general practitioner and specialist alike.

A. F. R. ANDRESEN.

Medical History

THE PROCEEDINGS OF THE CHARAKA CLUB. Volume IX. New York, Richard R. Smith, [c. 1938]. 204 pages, illustrated. 8vo. Cloth, \$5.00.

In 1898 a group of New York physicians, seeking diversion and stimulation through excursions into the history of medicine and the fields of literature and art, organized the Charaka Club, named after the Hippocrates of India. Since then the *Proceedings* of the club have been published at intervals. Once again a volume of this character has appeared, and like its predecessors it is a collection of delightful, charming, and sometimes scholarly literary efforts. This issue contains thirty-six contributions by nine-

teen contributors. To those acquainted with the preceding volumes this one will be a welcome addition. For those who have not yet made the acquaintance of the Charaka Proceedings it is heartily recommended. GEORGE ROSEN.

Latest Revision of Scudder's Fractures

THE TREATMENT OF FRACTURES. By Charles Locke Scudder, M.D. Eleventh edition, revised. Philadelphia, W. B. Saunders Company, [c. 1938]. 1208 pages, illustrated. 8vo. Cloth, \$12.00.

The 11th edition of this extensively used textbook is replete with all the modern concepts for the treatment of fractures. Obsolete methods have been deleted. Fundamental anatomical and pathological factors concerned with every fracture are presented in a concise direct manner so as to give the student and specialist a clear conception of his problems. There is no confusion as to which procedure to elect for treatment of certain fractures. For those interested in the handling of special intricate fractures the author clearly enunciates the procedure which his enormous experience and that of his collaborators have found most efficacious. The prolific number of excellent illustrations, many of which are new, are of inestimable value.

Arrangement of subjects and the exhaustive index is so systematic as to make readily available all the many phases of any fracture problem.

The intricate problems involved in properly evaluating epiphyseal injuries, their management and prognostication of the end results is more exhaustively and clearly presented than in any other textbook on the treatment of fractures.

Some of the special fracture problems which deserve particular mention are initial immobilization and traction and transportation of fractured extremities, transportation of back and neck injuries, healing of fractures, repair of bones, delayed and non-union in fractures, and the healing of fractures in disease and the influence of metabolic disturbances. This latter phase is presented in concise but inclusive manner to enable the surgeon to find a ready explanation of his problem.

Other special features incorporating more recent concepts are chapters devoted to the fracture of facial bones, head injuries and fractures and dislocations of the vertebral column.

The operative treatment of fractures and the surgical approach to bones are most commendable chapters for those interested in this phase as a method of treatment.

No more valuable book than this treatise can be added to the reference resources of the physician or surgeon who has to contend with any fracture problem.

IRWIN E. SIRIS.

Latest "International Clinics"

THE NEW INTERNATIONAL CLINICS. Original Contributions: Clinics; and Evaluated Reviews of Current Advances in the Medical Arts. Edited by George M. Piersol, M.D. Volume IV, New Series One. Philadelphia, J. B. Lippincott Company, [c. 1938]. 349 pages, illustrated. 8vo. Cloth, \$3.00.

Articles on Acute Infectious Polyneuritis, Hypertension, Length of Life in Cardiac Cases, Tannic Acid Treatment of Burns, Insulin Shock Therapy and several of interest to the obstetrician are among those of this volume. Kaltreider gives a thorough account of the Differentiation Between Pulmonary and Cardiac Insufficiency in Chronic Pulmonary Disease. In the review section, Haymaker and Anderson discuss at length "The Syndrome Arising from Hyperfunction of the Adrenal Cortex: The Adrenogenital and Cushing's Syndromes." This is a comprehensive article with two hundred and thirty references and will be found very valuable for reference.

WILLIAM E. MCCOLLOM.

A Loose-leaf Manual on Tissues

HANDBOOK OF HISTOLOGICAL AND CYTOLOGICAL TECHNIQUE. By R. R. Bensley and S. H. Bensley. Chicago, The University of Chicago Press, [c. 1938]. 167 pages. 4to. Cloth, \$2.00.

The authors have compiled an excellent manual for students interested in techniques for the study of fresh and fixed tissues. They take nothing for granted but commence with the most elementary laboratory procedure. The handbook should be part of every laboratory library.

NATHAN REIBSTEIN.

Another Book on Contraception

THE VAGINAL DIAPHRAGM. Its Fitting and Use in Contraceptive Technique. By LeMon Clark, M.D. St. Louis, The C. V. Mosby Company, [c. 1939]. 107 pages, illustrated. 8vo. Cloth, \$2.00.

Illustrations provide the greater part of this work, and their inspection will give the reader a clear idea of the text.

Not arguing for or against any method of contraception, the author merely gives directions for the use of the diaphragm for the purpose of controlling conception. The directions are explicit and easily understood. Devoid of technical phrases it may prove of value to those who resort to the method as well as to the doctor who is convinced that his responsibility is to impart such knowledge to his patients.

WILLIAM C. MEAGHER.

The Cancer Campaign

CIVILIZATION AGAINST CANCER. By Clarence C. Little, Sc.D. New York, Farrar & Rinehart, Inc., [c. 1939]. 150 pages. 8vo. Cloth, \$1.50.

This is an excellent primer on cancer for the laity. The methodology and accomplishments of research, and the clinical advances of diagnosis and treatment are summarily reviewed. A whack is taken at quackery.

An excellent survey is given of those warning symptoms which should direct the patient to seek medical guidance.

Throughout the discourse, an excellent sketch is given of the history and the nature of cancer.

The need for furthering the educational campaign to awaken the interest of the public in cancer is the basic theme of the book.

HARRY MANDELBAUM.

Murphy on the Anemias

ANEMIA IN PRACTICE. Pernicious Anemia. William P. Murphy, [c. 1939]. 344 pages, illustrated. 8vo. Cloth, \$5.00.

This book, by the co-discoverer of the liver treatment for pernicious anemia, will prove welcome to the practising physician. While the major portion of the work is devoted to a discussion of pernicious anemia a good portion is devoted to the presentation of other anemias which are more likely to be encountered in everyday practice.

Particularly valuable to the clinician will be a description of the differential diagnosis of the various types of anemias and the proper treatment of each.

The book is very well written and makes pleasant and interesting reading. The reliability of the information contained in the book is guaranteed by the experience and reputation of the author.

A. S. WIENER.

Rorschach Mental Studies

PERSONALITY STRUCTURE IN SCHIZOPHRENIA. A Rorschach Investigation in 81 Patients and 64 Controls. By Samuel J. Beck, Ph.D. (Nervous and Mental Disease Monograph Series No. 63.) New York, Nervous and Mental Disease Monographs, [c. 1938]. 88 pages, illustrated. 8vo. Paper, \$2.00.

This small book is an investigation of the personality of patients, especially Schizophrenic, by means of the Rorschach procedure. It is of interest to the psychiatrist as well as the psychologist, but can hardly be expected to appeal to the general practitioner or to those not primarily interested in psychologic testing.

This unique method of determining personality by means of the individual's reactions to ink-blot tests was devised by the Swiss psychiatrist Rorschach, and has been found to be of service in ascertaining the personality structure of individuals. The author has done a great deal of work with the test in this country, and is well qualified to present the results of his investigation. The test itself is a highly technical procedure which requires a good working knowledge of the method and its implications. Once mastered it is considered a direct and faster method of eliciting personality disorders than many of the other procedures now commonly used. The book itself, while technical, is well written, and stimulates a desire in the reader to investigate this method of psychological procedure further.

JOSEPH L. ABRAMSON.

Blood Disorders

PRINCIPLES OF HEMATOLOGY. With 100 Illustrative Cases, and 155 Illustrations Including 168 Original Photomicrographs and 95 Original Charts and Drawings. By Russell L. Haden, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 348 pages, illustrated. 8vo. Cloth, \$4.50.

The field of clinical hematology has tended with its newer developments to become more complex each year, and particularly so to those without specialized interest in the subject. Such complexity has been simplified by this work without loss of fundamental principles. The contents give a rounded description of hematologic physiology and histology, usual rather than specialized laboratory techniques, and an excellent survey of the dyscrasias from the viewpoint of disturbances of normal rather than true diseases. Therapeutic and prognostic considerations are also well considered.

Aside from its authoritative source, the clear and logical presentation gains further forcefulness through the use of numerous graphic illustrations, all new and beautifully reproduced. The case history method is accessory picturing of the dyscrasias no less adds to the merit of the entire text. Written primarily for the student and practitioner, it meets a real demand and is highly recommended.

IRVING M. DERBY.

An Ecological Study of Mental Illness

MENTAL DISORDERS IN URBAN AREAS. An Ecological Study of Schizophrenia and Other Psychoses. By Robert E. L. Faris and H. Warren Dunham. Chicago, University of Chicago Press, [c. 1939]. 270 pages, illustrated. 16mo. Cloth, \$2.50.

This book is mainly a collection of statistics that represents an investigation of 34,864 cases of mental disease with respect to distribution in two metropolitan areas, namely; Chicago and Providence. Nine different types of mental disease were studied by this ecological method. The rates of incidence of the cases varied with the type of community. For example, the rate for schizophrenia was found highest in the less integrated areas near the centre of the cities with a decline as one passed from the centre outward. The pattern for alcoholic psychoses, dementia paralytica, seniles and arteriosclerotics, in fact, all the mental disorders that were accompanied by more or less disorganization of personality seemed to follow somewhat the pattern for schizophrenia. The manic depressive psychoses on the other hand were found in areas of high rentals, and did not show any typical pattern. It might, therefore, be considered a disease of the well-to-do. The findings of these authors would seem to suggest a relationship of mental disease to environmental and economic conditions. The authors are, in their interpretation of the findings, conservative and indicate how complex is the problem and the need for further correlations. The data here contained should be of definite help to those dealing with criminality and allied conditions and those who are interested in community improvement and prevention of mental disease and allied conditions such as psychiatrists and sociologists.

A. E. SOPER.

BOOKS RECEIVED *for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.*

- DESIGNS IN SCARLET.** By Courtney Ryley Cooper. Boston, Little, Brown and Company, [c. 1939]. 372 pages. 8vo. Cloth, \$2.75.
- FUNDAMENTALS OF EXPERIMENTAL PHARMACOLOGY.** By Torald H. Sollmann, M.D. and Paul J. Hanzlik, M.D. Second edition. San Francisco, J. W. Stacey, Inc., [c. 1939]. 307 pages, illustrated. 8vo. Cloth, \$4.25.
- ECONOMICAL ADMINISTRATION OF HEALTH INSURANCE BENEFITS. Part I "The Principle of Economy in the Administration of Health Benefits"** by Dr. Walter Pryll. Geneva, Switzerland, International Labour Office, [c. 1938]. 137 pages. 8vo. Paper.
- GONORRHEA IN THE MALE AND FEMALE.** A Book for Practitioners. By P. S. Pelouze, M.D. Third edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 489 pages, illustrated. 8vo. Cloth, \$6.00.
- CLINICAL BIOCHEMISTRY.** By Abraham Cantarow, M.D. and Max Trumper, Ph.D. Second edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 666 pages, 8 vo. Cloth, \$6.00.
- DOCTOR ADDAMS.** By Irving Fineman. New York, Random House, [c. 1939]. 454 pages. 8vo. Cloth, \$2.50.
- DOCTOR, HERE'S YOUR HAT!** The Autobiography of a Family Doctor. By Joseph A. Jerger, M. D. New York, Prentice-Hall, Inc., [c. 1939]. 279 pages. 8vo. Cloth, \$2.75.
- CRYSTALLINE ENZYMES.** The Chemistry of Pepsin, Trypsin, and Bacteriophage. By John H. Northrop. New York, Columbia University Press, [c. 1939]. 176 pages, illustrated. 8vo. Cloth, \$3.00.
- INFECTIONS OF THE HAND.** A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand and Forearm. By Allen B. Kanavel, M. D. Seventh edition. Philadelphia, Lea & Febiger, [c. 1939]. 503 pages, illustrated. 8vo. Cloth, \$6.00.
- YOU CAN'T EAT THAT!** A Manual and Recipe Book for Those Who Suffer Either Acutely or Mildly (and Perhaps Unconsciously) from Food Allergy. By Helen Morgan. New York, Harcourt, Brace and Company, [c. 1939]. 330 pages. 8vo. Cloth, \$2.50.
- PRECLINICAL MEDICINE.** Preclinical States and Prevention of Disease. By Malford W. Thewlis, M. D. Baltimore, Williams & Wilkins Company [c. 1939]. 223 pages, illustrated. 8vo. Cloth, \$3.00.
- THE PRINCIPLES AND PRACTICE OF OPHTHALMIC SURGERY.** By Edmund B. Spaeth, M. D. Philadelphia, Lea & Febiger, [c. 1939]. 835 pages, illustrated. 8vo. Cloth, \$10.00.
- BRITISH HEALTH RESORTS, SPA, SEASIDE, INLAND.** Edited for the Association by R. Fortescue Fox. London, British Health Resorts Association, [c. 1939]. 320 pages, illustrated. 8vo. Paper.
- ADERVERKALKUNG UND HOHER BLUT-DRUCK.** By Dr. Karl Barth. 3. Auflage. München, Franz X. Seitz, [c. 1939]. 29 pages. 8 vo. Paper, 1 Mark.
- WIE SOLL EIN HERZKRANKER LEBEN UND WIE SOLL MAN LEBEN, UM NICHT HERZKRANK ZU WERDEN?** By Dr. Karl Barth. 4. Auflage. München, Franz X. Seitz, [c. 1939]. 20 pages. 8vo. Paper, 80 Pfennig.
- DAS ASTHMA UND SEINE BEHANDLUNG.** By Dr. Max Bickel. 3. Auflage. München, Franz X. Seitz, [c. 1939]. 40 pages. 8vo. Paper, 1.80 Marks.
- TAKE THESE HANDS.** By Anne Paterson. Philadelphia, Macrae-Smith Company, [c. 1939]. 402 pages. 8vo. Cloth, \$2.50.
- THE CLINICAL DIAGNOSIS OF SWELLINGS.** By C. E. Corrigan, M. D. Baltimore, The Williams & Wilkins Company, [c. 1939]. 313 pages, illustrated. 8vo. Cloth, \$4.00.
- FAILURE OF THE CIRCULATION.** By Tinsley R. Harrison, M. D. Second edition. Baltimore, The Williams & Wilkins Company, [c. 1939]. 502 pages, illustrated. 8vo. Cloth, \$4.50.
- ANGINA PECTORIS.** Nerve Pathways, Physiology, Symptomatology, and Treatment. By Heyman R. Miller, M. D. Baltimore, The Williams & Wilkins Company, [c. 1939]. 275 pages, illustrated. 8vo. Cloth, \$3.25.
- FEEL LIKE THIRTY AT FIFTY.** Renewed Vigor Through Gland Hygiene. By Edwin W. Hirsch, M. D. Chicago, Research Publications, [c. 1939]. 116 pages. 16mo. Cloth.
- FROM HEAD TO FOOT.** By Armitage Whitman. M. D. New York, Farrar & Rinehart, Inc., [c. 1939]. 262 pages. 8vo. Cloth, \$2.50.
- YOU'RE THE DOCTOR.** By Victor Heiser, M. D. New York, W. W. Norton & Co. Inc., [c. 1939]. 300 pages. 8vo. Cloth, \$2.50.
- GROSS ANATOMY.** A Brief Systematic Presentation of the Microscopic Structure of the Human Body. By A. Brazier Howell. New York, D. Appleton-Century Company, [c. 1939]. 403 pages, illustrated. 8vo. Cloth, \$6.00.
- POISONOUS PLANTS OF THE UNITED STATES.** By Walter C. Muenscher. New York, The Macmillan Company, [c. 1939]. 266 pages, illustrated. 8vo. Cloth, \$3.50.
- FIGHTING FOR LIFE.** By S. Josephine Baker, M. D. New York, The Macmillan Company, [c. 1939]. 264 pages, illustrated. 8vo. Cloth, \$2.75.
- HYPERTENSION AND NEPHRITIS.** By Arthur M. Fishberg, M. D. Fourth edition. Philadelphia, Lea & Febiger, [c. 1939]. 779 pages, illustrated. 8vo. Cloth, \$7.50.
- CLINICAL STUDIES IN PSYCHOPATHOLOGY.** A Contribution to the Aetiology of Neurotic Illness. By Henry V. Dicks, M. D. Baltimore, William Wood & Company, [c. 1939]. 248 pages. 8 vo. Cloth, \$4.75.



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EDITORIALS

Thomas M. Brennan, M.D., F.A.C.S.

IT is a pleasure to announce Doctor Brennan's acceptance of the Sponsorship of Surgery in our Department of Contemporary Progress. Doctor Brennan's work in the practice and teaching of surgery, in medical journalism, and in the local, state and national societies representing organized medicine has brought recognition to him as an outstanding and revered leader.

Natural and "Supernatural" Science

IN the early American medical schools the professorship of botany was an especially important post. Thus in the University of Pennsylvania Benjamin Smith directed the department of botany. The use of galenicals loomed large in those days, and medical students had to know the medicinal plants at first hand and how to brew the decoctions, infusions and tinctures that were extensively employed. Private botanic gardens were common, and one thinks of colonial plants named after Americans, many of them physicians—Gardenia, Bigelowia, Mitchella, Marshallia, Bartonina, Coldenia, Claytonia, Kuhnia, etc.

Although we have no professorships of botany we have something in their place. The young modern practitioner would be at a loss were he to be required to make some tincture of digitalis, much less grow the plant and select the leaves (or perhaps to write a prescription in the old sense), but he must possess a vaster lore than any eighteenth century scholar of the natural sciences in Philadelphia, New York, or Cambridge. A postgraduate faculty, composed of personable and well-informed young repre-

sentatives of the great drug manufacturing firms, and an unseen college of propagandists of the pen, induct him immediately upon beginning practice into a seminar that takes knowledge of all proprietaries as its ambitious program. Yesterday it was natural science. Today it is, so to say, "supernatural" science.

Well, after all, Jesuits' bark or the rhubarb of yesterday was one thing, and rabbit pneumococcus serum or sulfanilamide is another thing. Other times, other manners.

Man Must Kill

VERY much of the hostility of our numerous and vociferous lay critics has to do with our frustration of their desire to assume the prerogatives of the Deity and terminate human life at will. The resistance of medicine to this group interposes the chief obstacle to their determination so to decide the destiny of their fellow men and to draft medical assassins to carry out their mandates.

Medicine has done a good job to date in protecting the ill, the handicapped, the dying, and the pregnant woman against euthanasia and abortion. It has failed to prevent war but has done a good mopping-up job even here.

Human nature being what it is, war is to some extent a compensation for the frustration of civil life with respect to the taking of life. Our traffic killings, our executions of criminals, and our murders in civil life, in times of peace, do not suffice. There must be occasional wars.

Euthanasia and legalized abortion are great peacetime perils because they would diffuse the killing initiative very

widely among men (any one could appeal for the interruption of a pregnancy or the speedy dissolution of a rich and unlovable aunt). Murder is not favored because it increases too much the personal peril of the solitary private citizen. Mass murder, or war, is acceptable because it is a social gesture, with many associated releases and compensations. It is probable that men go down in ships less unhappily if accompanied by large groups.

The Prospero in a statesman's conscious mind makes him do his bored best to prevent war; but once war has begun, the unleashed Caliban in his unconscious mind is enthralled by the hurling of living men against one another. And so long as men are killed in about equal numbers on both sides, as in the stalemate of the First World War, the shambles can be continued for a long time as a wholly justifiable and approved performance.

The moral is that if you abolish war you may have to accept many more civil killings—more abortions, more executions (easily effectuated by making capital punishment cover various offenses other than murder), and even more "private" murders. Euthanasia itself might be implemented. The suspension of traffic rules from time to time would reveal and quicken a vast killing potentiality.

Medicine is in a dilemma in so far as it stands unequivocally for the conservation of life. Perhaps that is why it is always baffled a bit when the thought of taking a position on war occurs to it from time to time. Why shouldn't it be?

Back-Seat Driver Seizes Wheel

THE Senatorial sponsor of a national health measure, supposed to represent a culmination of the National Health Program, recently declared the real source of his legislative inspiration to be the teachings of a great Church's spokesmen as expressed in certain of their formal pronouncements on labor,

social justice, and the general welfare of humanity.

But when one examines the fearsome product of this sponsor's sleazy thinking, and discovers its numerous and fatal defects, one wonders at the smug effrontery which invokes the wise, sound and progressive utterances of great religious authorities as the *fons et origo* of such a measure.

For this precious measure would tend to reduce American physicians to serfdom, would place the administrative care of the sick in the hands of officials having no real bedside experience, would be cumbersome and appallingly costly, would provide a set-up readily amenable to political influence, would not improve the public health, would lower the

quality of medical service, and would not in any way alter the primary evils of insanitary housing, poor nutrition, and general economic degradation—in other words, it would not tend to prevent disease.

Such a measure gratuitously assumes that the depression through which we are struggling is to be permanent; our future set-up is to be perpetually geared to the social, economic and political degradation we now see on every side that we are to compete culturally with the lowest of the totalitarian states for our place in the inferior man's world.

One wonders, first, why such a measure should be regarded by its author as expressing the concepts of great minds of the Church; second, why it should ever have been perpetrated at all; third, what a statesmanlike measure, truly based upon the ethical concepts in question, would be like.



ESTABLISHED
IN 1872

NICOTINIC ACID IN PELLAGRA

Nicotinic acid seems to cure pellagra even when poor diets are continued, but relapses may occur.

—J. H. Kooser and
M. A. Blankenhorn, in J.A.M.A.,
June 24, 1939.

MEDICAL TIMES, JULY, 1939

Skin Vitamins:

VITAMINS A AND D TOPICAL APPLICATIONS

ROBERT R. M. McLAUGHLIN, M.D.

New York, N. Y.

A vitamin may be defined as one of a group of definite, organic chemical substances of widely different structures and physiological actions, present in minute amount in nature, indispensable to normal nutrition, yet itself contributing no energy nor building material to the body.

It is well known that all body tissues require at least some of the vitamin substances for normal existence, and that each will show anatomical or functional changes or both in response to partial or complete deprivation of these vitamins. In many instances the exact nature of the vitamin is known so that it can be built up synthetically. Likewise the exact chemical change which occurs in the tissue as a result of a partial or complete deprivation of the specific vitamin is known in a very few instances.

Unfortunately, the exact chemical structure of many of the vitamins and the chemical changes which occur in various tissues and cells for which they seem specific are not known. Our knowledge of their function has depended upon meager laboratory evidence and upon clinical observations which can be repeatedly demonstrated.

Vitamins are contained in food substances upon which we depend for an adequate supply. Embryonically similar, the skin likewise absorbs many of them, especially the oil soluble vitamins. We are able to observe both local and systemic effects from topical application of some of them.

THE purpose of this paper is to report some of the effects observed following the topical application of vitamin D

alone and in combination with vitamin A. It is believed that a deficiency of vitamin A sufficient to produce dermal changes is a rarity in this country; that vitamin D requires the presence of vitamin A (whether already present or supplied with it is immaterial) to be effective on the skin; that vitamin D deficiency is of common occurrence; that vitamin D has a stimulative, reparative and normalizing effect on epithelium which is greater from topical application than that obtained when it is taken by mouth, regardless of dosage; that there is no characteristic skin disease due to vitamin D deficiency but that there is prompt relief of certain skin disorders of a nonspecific type, which may be due to other factors, yet are commonly due to a vitamin D deficiency; and finally that vitamin D is absorbed through the intact epithelium, producing both local and systemic effects, most marked in the presence of an insufficiency of this vitamin in the body.

Experimental Evidence

DALLDORF showed that while vitamin A was essential to the growth of embryonic epithelial iris cells, vitamin D stimulated growth to a figure as much as five times the normal rate. Vitamin D alone would not support the growth of these cells, the presence of vitamin A being necessary for it to function in this fashion.¹

Hume, Lucas and Smith demonstrated the absorption of vitamin D through the intact epithelium.²

Astrowe and Morgan confirmed this work in humans and showed that the body needs were met by the application of small quantities to the skin.³

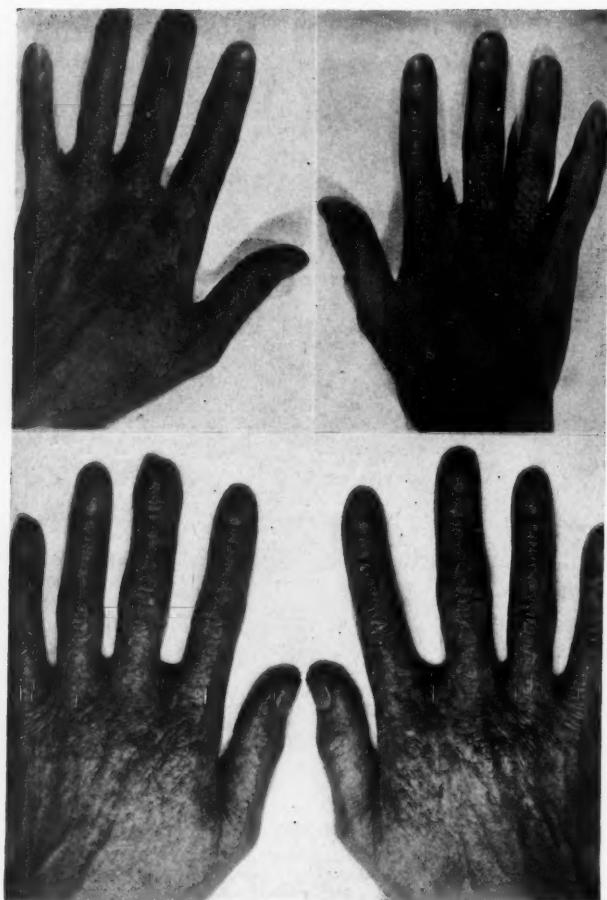
Helmer and Jansen showed that the vitamin was rapidly absorbed and that the animal needs were supplied when the vitamin preparations were kept in contact with the skin for only a few minutes a day.⁴ It seems probable that there is rapid absorption up to a saturation point in the skin, following which the rate is much slower. These authors believe that the efficiency of absorption of vitamin D through the skin is approxi-

mately equal to its absorption from the digestive tract. Other workers have not agreed with this, believing that the rate of absorption is much slower.⁵

HELMER and Jansen further showed vitamin A is absorbed through the intact epithelium, either as vitamin A or the provitamin carotene. They conclude that "these vitamin substances can be absorbed in quantities sufficient to promote growth and to prevent xerophthalmia in a degree comparable with the results produced by their oral administration."^{6,7} Eddy and Howell found that the dermal

absorption was only one-third as effective in promoting growth as when fed but they raise the question as to whether the carotene applied locally which failed to show its effect in growth, acted on the skin through which it passed or was stored in the skin.⁸

There is no reason to believe that topically applied vitamin A is more effective on the skin itself than the fed product. It is at least partially destroyed by irradiation with ultra-violet light.⁹ On the other hand, there is reason to believe that topically applied vitamin D is more effective than the fed product, when local effect is desired. This is substantiated by the healing effect of cod liver oil on



CASE I

Upper view: 6-10-'35.

Lower view: 3-18-'37.

CASE 11
11-30-'36.

wounds, treatment of rickets with sunlight, and other accepted uses of natural and artificial sunlight.

Clinical Evidence

THE skin lesions produced by vitamin A deficiency are chiefly a follicular hyperkeratosis associated with dryness, scaling, perifollicular pigmentation, follicular plugging and a tendency to furunculosis. Frazier and Hu found that the dryness of the skin preceded eye signs in adult cases by several weeks.³⁰ Jeghers reports that the chief manifestations of vitamin A deficiency, in order of their frequency, are night blindness, photophobia, dry skin, dry conjunctivae, blepharitis and follicular hyperkeratosis. A dry skin associated with night blindness can almost always be accepted as evidence of vitamin A deficiency of a very mild degree, although photophobia and dry conjunctivae should also be present. In the presence of follicular hyperkeratosis and perifollicular pigmentation, night blindness is definite corroborative evidence of vitamin A deficiency.³¹ The biophotometer is now widely used in these studies.

The reports of Lohr and others of rapid regeneration of epithelium following the topical application of cod liver oil is supported by laboratory evidence.^{32, 33} Lohr further describes the use of cod liver oil in plaster casts used to treat osteomyelitis.³⁴ He further describes freedom from pain, less frequent changes of dressing, and a more rapid general improvement in the patient's condition.

Zoltan describes the use of a vitamin substance (sterilin) in the treatment of 297 cases of infected skin lesions, varying from boils to carbuncles, burns, non-



granulating or poorly granulating wounds.³⁵ Shortening of healing time, preservation of tissue and close approximation of the affected parts to their original condition were claimed.

OTHERS have reported that a deficiency of vitamin A is often followed by such cutaneous manifestations as boils, impetigo, and follicular hyperkeratosis. Even ulcerated lesions of cutaneous epitheliomas and mammary carcinomas showed very satisfactory local improvement following local application and injections of vitamin A as palliative treatment. However, the patients were usually treated with vitamins A, B and D preparations by mouth as a supplement to their usual diet.

In some thirty cases of senile vaginitis, Simpson and Mason found that an increased intake of cod liver oil or haliver oil proved usually effective in producing rapid relief of the symptoms and in gross and histological repair of the vaginal lining.³⁶

It is important to notice that few of the clinical cases reported are described as actually showing lesions of dermal vitamin A deficiency, much less any other pronounced but known symptoms of this condition. Almost without exception although the improvement was credited to the presence of vitamin A, vitamin D and often vitamin B, were present in the



CASE III

Upper view: 12-3-'36; Middle view: 12-17-'36; Lower view: 1-21-'37.

preparation used to treat the condition. In view of later work it seems probable that vitamin D produced the improvement, possibly depending on the presence of vitamin A.

MY own use of vitamin D containing ointments has been predicated on the theory that the beneficial effects of ultraviolet light in the treatment of skin and general disorders, in which it is considered useful, are at least partially due to the local development of vitamin D and the absorption of this vitamin by the skin; and that the local application of

vitamin D containing substances might produce an effect similar to that of ultraviolet irradiation, without producing some of the often undesirable secondary physical reactions such as erythema and peeling.

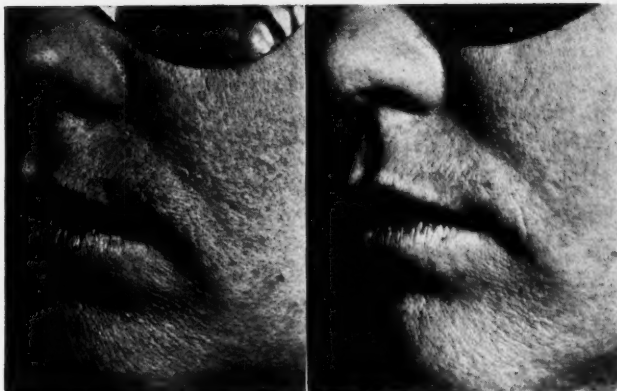
Volk and Winter²² state concerning the cholesterol esters of the skin that "the main part is not excreted through the sebaceous glands, but is eliminated through the epidermis and discharged with the stratum corneum. With the increase of age, Buerger and Schonka found a reduction in the quantity of cholesterol from 211 mg. to 102 mg. The fats of the skin consist of various combinations; particularly is this true of the secretory and cell fats. While the secretory fats show a cholesterol content of from 1.4 to 2.8 per cent and an increase of free cholesterol, the fats of the skin have a cholesterol content of 16 to 20 per cent. Excepting the adrenals, the subcutaneous fatty tissues are the most important cells for the storage of cholesterol, even though the quantity is small."

ON the basis of this chemical analysis it is evident that there are sufficient cholesterol substances in the skin and on the skin for the development of vitamin D by irradiation with ultraviolet light, and furthermore, that the quantity of vitamin D which may possibly be produced by this process of ultraviolet irradiation may be expected to decrease with age.

The so-called "band of maximum antirachitic activity" in the ultraviolet spectrum is located at 275 millimicrons according to Bachem and Reed.²³ They further state that most of this radiation is absorbed in the corneum and granulosum layers while on each side of this band are erythema producing radiations which penetrate in considerably greater quantities to the deeper layers, the stratum germinativum and the corium. It seems very unlikely that a method of separating these bands will be devised because of the physical nature of the present sources of ultraviolet light. It follows, therefore, that the topical application of the end-products of ultraviolet irradiation of the skin is the simplest method of obtaining the beneficial effects without the undesirable erythema, vesiculation and peeling which must follow

if a comparable amount of ultra-violet is used on the skin as is used to irradiate the vitamin D containing substances.

Another factor, which is considered important, is the hydrogen ion concentration of the skin surface and the vehicle used to carry the vitamin D containing substances. Normal values are from 3 to 5 pH. This may be easily demonstrated by the application of dibasic dyes having the proper range. The degree of acidity is diminished by sweating and in pathological conditions where the upper epithelial layer is not present. Mineral acids or alkalis, even in small amounts, will so change the hydrogen ion concentration of the skin surface that normal function is interrupted and it is probable that



CASE IV

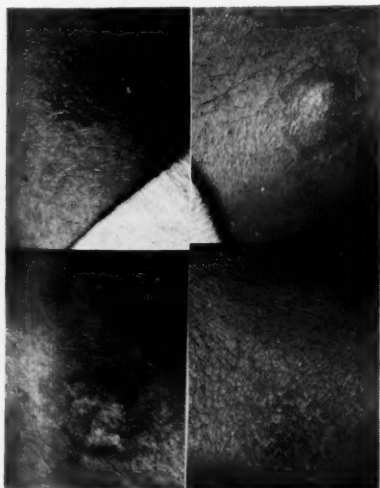
Left view: 12-7-'36; Right view: 12-14-'36.

vitamin D will be destroyed or rendered inactive.

The preparations used in the cases reported below contained variable amounts of vitamin D but were free of mineral acids, were oily, and possessed a pH of about 5.0. Where indicated, vitamin D was supplemented by vitamin A. The most available preparation was composed of 1.25 cc. viosterol per gram of eucerin ointment (a purified petrolatum to which is added about 6 per cent cholesterol esters derived from wool fat).

CASE V

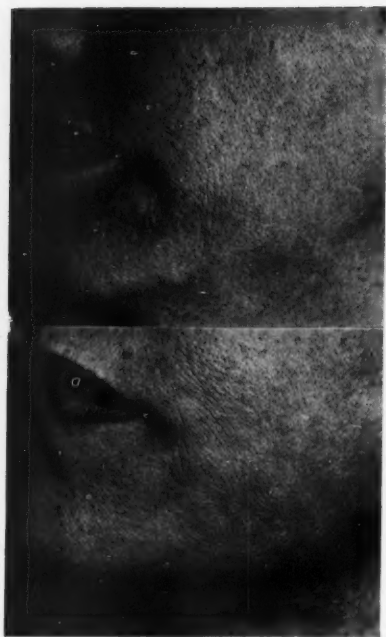
Left views: 12-8-'36; Right views: 12-18-'36.



Cases

LOCAL x-ray therapy as employed in dermatology tends to produce a dryness of the skin with subsequent superficial crêpe-like wrinkling, especially when used to treat disorders of the sebaceous glands such as acne vulgaris. It is an accepted fact that this condition must be approached in order to obtain satisfactory and more or less permanent results. Almost without exception, if the treatment has been in the hands of a competent dermatologist, an overdose is avoided and ultimately the skin returns to a relatively normal condition. This inhibition of the secretory activity of the skin glands is necessary to accomplish the desired result.

My interest in the use of vitamin D containing ointment was based on the observation of several cases in which



CASE VI

Upper view: 5-20-'37; Lower view: 6-3-'37

overdoses of x-ray had been given. In these cases there was observed a prompt healing of secondary ulcerations, fissurings, and small keratoses and a gradual but steady improvement in the atrophic and telangiectatic areas of the affected skin, following the topical application of viosterol in a suitable base, which was not obtained when the patient took many times the local dose internally.

It seems only logical that similarly dry skins, even though not produced as the result of excessive x-ray radiation, should respond in a similar fashion. This type of skin is common in the winter months and in a majority of women of middle age or older.

ALTHOUGH the cases reported here are of the late type of radiodermatitis I have used vitamin D ointment following facial x-ray therapy as a routine procedure for the past five years with very satisfactory results. Furthermore,

a case of early ulceration following massive overdosage with x-ray was observed to heal relatively promptly under viosterol locally after it had failed to show improvement under treatment with fresh *Aloe vera* leaf.²¹

That there are numerous sterol derivatives of vitamin D with varying properties is clearly pointed out by Bills.²² If it is clearly understood that the vitamin D referred to in this paper is that obtained by the irradiation of ergosterol, or viosterol, perhaps some misunderstanding will be avoided.

Case Reports

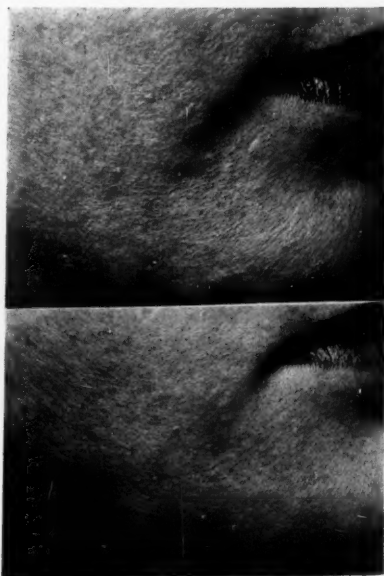
Case I—A 25-year-old white man, clerical worker. P.O.

Patient received over fifty fractional doses of superficial x-ray to the hands and a lesser amount to the feet. Last treatment four years prior to treatment (1931).

For the resultant radiodermatitis numerous local applications including *Aloe vera* leaf had been tried without success. In August 1935 the dorsum of the hands showed atrophy, telangiectasia, keratoses and a superficial ulceration on dorsum of left middle finger. The nail deformity was due to an earlier trauma. Motion was restricted to about one-third because of the skin changes. Grasping was impossible.

CASE VII

Upper view: 12-1/5-'36; Lower view: 1-5-'37.



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CASE VIII

Left view: 1-30-'37; Right view: 2-6-'37.

For several months the patient had been taking twenty drops of viosterol by mouth and using eucrin ointment locally. On August 25, 1936 he was given an ointment containing 5 cc. of viosterol in 60 grams of eucrin ointment. Improvement was immediate and progressive so that complete use of the hands was possible in two weeks. Healing of the ulceration was complete when observed at the end of four weeks. After prolonged use the keratosis appear softer and flatter, the smaller have disappeared and some of the larger have been lightly coagulated.

Subsequent observation has confirmed the diagnosis of dermatophytosis as the original condition for which the patient received the x-ray therapy. The hands are now tolerant of soap and water as well as ordinary trauma incidental to his usual work. The areas of telangiectasia and atrophy have become about half of their original size.

Case II—A 65-year-old white woman, widow, F. K.

Excessive x-ray therapy for a contact dermatitis of the palms, last treatment in 1910. Radiodermatitis since 1911.

In May, 1936 the palms showed atrophy, telangiectasia and a few superficial keratosis. Fissuring and small areas of ecchymoses were produced easily by light trauma.

The patient was a woman of means and had tried everything that had been suggested to her. She was given an ointment consisting of 5 cc. of viosterol in 60 gm. of eucrin. Relief from itching was almost immediate. Fissuring healed promptly and no new ones appeared after two month's time. Relief from damage due to ordinary trauma was such that the patient was able to go without gloves for the first time in fifteen years.

Case III—A 57-year-old white woman, married, housewife. R. S.

In 1926 the patient received twenty-two treatments at the Tricho Institute for the removal of superfluous hair on her face. Radiodermatitis developed in 1930.

On December 3, 1936 the patient showed atrophy, telangiectasia, dryness and excessive wrinkling of the skin on the cheeks and chin. Beneath the skin, in addition to the above there was a thickened fibrotic area apparently adherent to the mandible.

The patient was given an ointment containing about 10,000 U.S.P. units vitamin D and 55,000 units vitamin A. Two weeks later there was a remarkable softening of the dry skin and disappearance of much of the superficial wrinkling and of a thickening of the atrophic areas when the skin was rolled between the fingers. A year later the patient was seen but a photograph could not be obtained. The telangiectasia appeared to be about half of the original size.

Case IV—A 35-year-old white woman, married, housewife. B. S.

History of dry, flaking skin and superficial wrinkling or crepe-like change. Moderate user of cosmetics but no medications.

On December 7, 1936 patient was given an ointment containing 20 U.S.P. units provitamin A as carotene, and 40 U.S.P. units vitamin D per gram. A week later there was a complete disappearance of the flakiness and crepe-like wrinkling. Patient stated that it took five days before any residual ointment was found on the face in the morning following the nightly application.

Case V—A 47-year-old white male, widower, unemployed. B. F.

Two patches of two months' duration on the lower legs, diagnosed as winter "eczema," disappeared in two weeks following the use of an ointment containing 20 U.S.P. units provitamin A and 40 U.S.P. units vitamin D. A recurrence in November, 1938 has responded as promptly.²¹

Case VI—A 30-year-old white woman, single, secretary. M. S.

History of wrinkled skin and mild acne. Used cosmetics routinely as well as various local remedies for acne. Given ointment containing 20 U.S.P. units vitamin A and 40 U.S.P. units vitamin D. In ten days the skin appeared less wrinkled, smoother and clearer of acne. The skin felt thicker, softer, and more elastic when rolled between the fingers.

Case VII—A 20-year-old white woman, secretary. C. B.

History of a dry, scaling skin accompanied by an acneiform eruption on the face. Given an ointment containing 20 U.S.P. units vitamin A and 40 U.S.P. units vitamin D. Photos are three weeks apart. Improvement consists of disappearance of

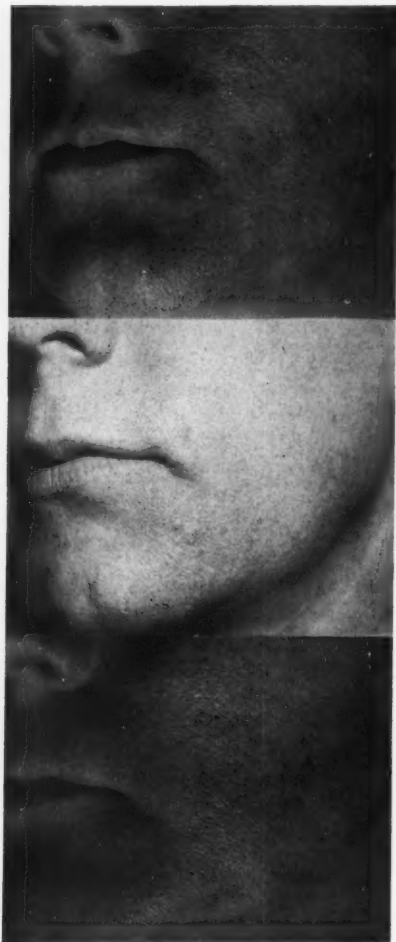
dryness and scaling with a lessening of the severity of the acneiform eruption.

Case VIII—A 23-year-old white woman, nurse. C. L.

History of a wrinkled dry skin associated with mild acne. Given an ointment containing 20 U.S.P. units vitamin A and 40 U.S.P. units vitamin D. One week later the skin showed much less wrinkling, less dryness and there was a moderate improvement in the acne.

Case IX—A 30-year-old white woman, nurse. M. C.

History of moderate acne, scaling dry skin. First given an ointment consisting only of white petrolatum (whipped to a white color), and then



CASE X

Upper view: 6-8-'38; Lower view: 8-6-'38.

a similar appearing ointment containing 20 U.S.P. units vitamin A and 40 U.S.P. units vitamin D. Each preparation used for a three-weeks test period. During the first period there was a slight aggravation of the acne and no improvement in the dryness of the skin. Following the use of the vitamin containing cream there was a lessening of the acne and a disappearance of the dryness. Skin also softer and more pliable after the second cream.

Case X—A 54-year-old white woman, housewife. C. C. V.

Photos six weeks apart showing prompt healing of a long-standing secondary ulceration in an old radiodermatitis area on the dorsum of the hand. Patient was given an ointment containing 5.0 cc. viosterol in aquaphor ointment 120.0 gm.

Summary

| T is probable that there are many vitamins involved in the normal nutrition of the skin with its complex structure.

CASE IX

Upper view to left: 10-2-'37; Middle view to left: 11-11-'37; Lower view to left: 12-7-'37.

MEDICAL TIMES, JULY, 1939

Gross lack of vitamin A produces a recognized clinical picture. Gross lack of certain factors in the vitamin B complex produces the well-known skin changes of pellagra, while deficiency of vitamin C is associated with purpura.

While there has been no single clinical entity of a comparable nature involving the skin, due to a gross lack of vitamin D, there have been sufficient clinical reports of the value of vitamin D in the treatment of various skin disorders to warrant the inclusion of this vitamin in that group of vitamins which are considered necessary to the normal nutrition of the skin.

The cases reported herewith are of radiodermatitis and those conditions of the untreated skin which are comparable to the effect produced by x-ray irradiation as commonly employed in dermatology today. These conditions are dryness, wrinkling and superficial crêpe-like changes associated with slight atrophy as found in the normal or premature aging of the skin.

The clinical effect of the topical application of vitamin D ointment in these cases has been a normalizing one. Dryness and superficial crêpe-like wrinkling disappeared and the skin became fuller and more pliable. In those cases with ulcerations and fissuring these

healed within a few weeks. Keratoses seemed to decrease in size and the smaller ones disappeared. Telangiectatic areas became smaller and less marked in size and intensity.

Conclusions

1. Vitamin D is absorbed by the epithelial cells of the skin, and in sufficient quantity to supply the needs of the individual if necessary.

2. In addition to the systemic effect observed, there is also a local effect at the site of application, which is much more pronounced than when the vitamin is ingested.

3. It is probable that vitamin D is not essential to some growth of epithelial cells and not sufficient to support epithelial cell growth by itself, but it is a powerful stimulant to cell growth in the presence of vitamin A.

4. Absorption of vitamin D, as manifested by clinical effects, is prompt. Daily applications of small quantities are sufficient to produce these clinical effects within a few days or weeks.

5. No ill effects have been observed from the topical application of vitamin D in large doses or over prolonged periods of time (up to three years of continued daily use).

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—Concluded on page 325

Anemias

OF CHILDHOOD

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WE shall omit the anemias of hemorrhagic type (purpura, hemophilia and hemorrhagic disease of the newborn) and begin our presentation with those anemias falling into the category of

Erythroblastosis Fetalis

Congenital Hydrops—this condition is characterized by generalized edema and a severe anemia with many nucleated red cells and immature white cells in the peripheral blood. The liver and spleen are greatly enlarged. The placenta is enlarged and the vernix is golden yellow in color. The infants are still-born or live only a few hours.

Icterus Gravis Neonatorum—this disease is characterized by a jaundice which appears at or shortly after birth and becomes rapidly intense within 48 hours. The placenta, liver and spleen are usually enlarged. The anemia is severe and hyperchromic, macrocytic in type; nucleated red cells are present in large numbers as a rule, and there is a leukocytosis with some immature white cells. The platelets may be markedly reduced, and the bleeding time prolonged, giving rise to

Read at the Annual Meeting of the Associated Physicians of Long Island, at the Norwegian Hospital, Brooklyn, January 28, 1939.

purpura and hemorrhage. The fragility of the red cells is normal. Icterus index may reach 200 or more and van den Bergh gives direct reaction. The disease is often familial and, though considered usually fatal, our results with frequent transfusions have been very encouraging.

Congenital Anemia—this disease is characterized by marked pallor without jaundice in contrast to icterus gravis. The anemia is of the same type, but the presence of nucleated cells is less numerous. The liver and spleen are usually enlarged. There is a leukocytosis but a normal platelet count and normal bleeding time. Fragility of red cells is normal and van den Bergh is negative. Frequent small transfusions have been successful in every case I have treated.

Hypochromic Anemias

- A.—Iron deficiency anemias
1. Anemia of prematurity
 2. Nutritional anemia of infants
- B.—Infections

Anemia of Prematurity—This type of anemia usually appears at the end of the second or third week of neonatal life, when normal infants show a drop in hemoglobin content, and is therefore considered physiological. The mechanism of this anemia is not well understood, but the most tenable theory is that it results from an inadequate pre-

ASSOCIATED PHYSICIANS OF LONG ISLAND

Scientific Program of the 41st
Annual Meeting (122d Regular
Meeting), January 28, 1939,
at Norwegian Hospital, Brook-
lyn, N. Y.

- Anemias of Children —Dr. George J. Brancato
Hypoglycemia —Dr. Francis P. Ferrer
Carcinoma of the Large Bowel —Dr. Gregory L. Robillard
Physiological Supportive Plan
of Pneumonia Therapy —Dr. Edward E. Cornwall
Lipoid Pneumonia—
Histological Demonstration —Dr. John A. Monfort
Ambulatory Treatment of Peptic Ulcer —Dr. Bernhard A. Fedde
Ulcerative Tonsillitis —Dr. Ernest A. Brooks

natal storage of iron in the liver. Merritt and Davidson recommend iron therapy in these infants from the second week until blood findings are normal. They also advise orange juice and antirachitic vitamin and see no need for the use of liver. Treatment after anemia begins is not as effective as therapy begun soon after birth.

Nutritional Anemia—This type of anemia differs from the anemia of prematurity only in its later appearance. As Mackay has pointed out, it occurs more frequently after the fourth month of life, when the iron store in the liver is becoming depleted. An inadequate iron intake at this age, which is frequently the case in prolonged milk feeding, will invariably result in an iron deficiency anemia. Clinically such a child presents a variable degree of pallor both of the skin and mucous membranes. There is no jaundice, and the child may appear normal in size and weight. The blood picture reveals a microcytosis and hypochromia with a low color index, which disappear under adequate iron therapy.

Infection—This probably is the greatest single factor in the production of anemia. Among the diseases causing anemia may be mentioned pneumonia, otitis media, mastoiditis, empyema, streptococcus septicemia, subacute bacterial endocarditis, etc.

Hemolytic Anemias

I. Cooley's Erythroblastic Anemia— This disease is familial and racial, occurring in children born of Syrian, Greek or Italian parents, most cases being seen in Italians. The onset of the disease is usually at the end of the first year, but it may occur as early as the fourth month, as in one of the cases I saw recently. A well developed case gives a very characteristic picture. The child has a muddy, olive, or waxy gray complexion, a Mongolian facies, and an enlarged abdomen. This last finding is caused by an enlargement of the liver and spleen, and sometimes ascites. The spleen at times may reach the crest of the ilium. The disease runs a chronic course and pro-

gresses slowly to a fatal termination. Although most cases die before the age of puberty, some reach the twentieth year.

The blood picture presents a hypochromic anemia which may be very severe. There is a marked variation in size and shape of the red cells, microcytosis predominates, but macrocytes are also present. The essential finding in this anemia is the large number of nucleated red cells and the irregular deposition of hemoglobin in the red cells. A leukocytosis of at least 20,000 is usually present but you may get a leukopenia.

The platelets are normal. The red cells show increased resistance to hypotonic salt solutions. Icterus index is increased and van den Bergh gives a positive indirect reaction.

The bone changes are very characteristic in well developed cases. The skull shows extensive medullary thickening with radial striations, and the long bones have a porous appearance with sharp trabeculation and thinning of the cortex.

Transfusions are the only available treatment and are merely palliative.

II. Congenital Hemolytic Jaundice is a disease which may be present at birth or develop later in childhood. It is characterized by recurrent attacks of jaundice, a familial tendency, splenomegaly, increased fragility of the red blood cells, spherocytosis, microcytosis, normoblastosis and reticulocytosis. The color index is below one. This is the only disease with a microcytosis that has a normal cell volume. The disease may be acute or chronic and splenectomy has given very good results.

III. Sick Cell Anemia occurs almost exclusively and frequently in the Negro race, in both children and adults. When a Negro presents himself with a marked anemia, splenomegaly, and leg ulcers, the most probable diagnosis is sickle cell anemia. It is a chronic familial anemia of long duration, with intermittent attacks of weakness, leg ulcers and pains in the joints. The most striking hematologic feature of the anemia is the sickle-like shape of red cells when examined in absence of oxygen.

Anerythroplastic Anemia—This term

1898



1939

was coined by me to describe that type of anemia variously termed aplastic, hypoplastic and aregenerative anemia. This anemia, as its name indicates, is characterized by the failure of the red cells to regenerate. The most plausible explanation for this is a congenital anomaly of the bone marrow which precludes erythropoiesis. This disease is very rare.

The present case was first seen by me about seven years ago, when she was moribund. Her red cells numbered 550,000 and Hgb less than 10 per cent. Her white cell and platelet count were normal. She has at no time shown a reticulocyte response despite the fact that she has received maximum therapeutic doses of iron, liver extract, thyroid and vitamins A B C D. She has literally lived on borrowed blood, having received to the present time about 100 transfusions, lately about 400 cc. every six weeks.

Bone marrow aspiration showed a pronounced paucity of erythroblasts, the forerunners of the red cells, but the myeloid cells were present in normal ratio.

Myelophthisic Anemia

This type of anemia is due to mechanical interference with the blood-forming function of the bone marrow. When the bone marrow is invaded by abnormal cells a progressive anemia develops.

This is observed commonly in the acute and chronic leukemias, Hodgkin's disease and miliary tuberculosis; less commonly in metastatic bone tumors, the primary xanthomatoses and osteosclerosis. Time does not permit a description of all these diseases but I should like to leave with you a brief picture of the xanthomatoses, namely, Gaucher's disease, Niemann-Pick's disease and Schüller-Christian's disease.

The findings common to all three diseases is the widespread presence of so-called foam cells in spleen, liver, lymph nodes and bone marrow, and hemochromatosis and pigmentation of the exposed skin. Gaucher's disease is congenital and familial, and is characterized by enlarged spleen and liver, leucopenia and hypochromic anemia. Niemann-Pick's disease is a rare congenital and familial disease affecting predominantly female infants of Jewish race. Few patients live longer than two years. In contrast to Gaucher's disease the lymph nodes are considerably enlarged. Schüller-Christian's disease has a characteristic triad of large bony defects, especially of the skull, exophthalmos and diabetes insipidus. It resembles closely neuroblastoma, Hutchinson type, a case of which was seen in this hospital very recently.

449 BAY RIDGE PARKWAY.



HYPOGLYCEMIA

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HYPOGLYCEMIA is not a disease but a symptom-complex which may occur in the course of any number of conditions, as the result of numerous and various pathological processes. Definite

glycogenosis may be present following destruction of the liver by poisons, acute yellow atrophy and extensive destruction by tumors. Muscle wasting, excessive exercise or renal glycosuria may be factors. Pituitary tumors, Simmonds' disease, Addison's disease, pancreatic tumors and hypothyroidism have been associated with hypoglycemia although it is asymptomatic with the last. Experimental studies indicate that the higher nervous centers take part in the

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regulation of insular secretion through the vagus. All the cases of hypoglycemia have presented neurological symptoms. The mechanism in the production of neurologic and psychic symptoms by hypoglycemia is not definitely known. It has also been shown that the pituitary gland acts on the pancreas to increase insulin output both directly and through the thyroid gland.

Case No. 72792, C. M., Age 34. Admitted to the Norwegian Hospital on July 13, 1938 complaining of pain in the left lumbar region, fainting spells, swelling of the ankles, constipation and profuse vaginal discharge. The family history is significant in that the father died of cancer of the stomach, the mother died of tuberculosis and one brother died of tuberculosis. One brother and one sister died of unknown causes in childhood. One brother and two sisters are living and well. In the past personal history she had tuberculosis of the bones at seven years which cleared up in two years. She had an appendectomy 5 years ago at the Cumberland Hospital and recovered without sequelae or complications. Her menses began at 14, were normal until the birth of her child sixteen years ago, when they occurred every two weeks and lasted one-two weeks; she also contracted gonorrhea at this time. She has no cough but perspires profusely at night, has been feverish in the afternoon, tires easily and has hot and cold flashes. She has been steadily gaining weight. There is dyspnea and palpitation on exertion but no orthopnea. She has had periods of burning on urination, frequency and nocturia but no hematuria. She has had a persistent back pain localized over the left lumbar region that has not radiated and is not associated with constipation, menses or urinary symptoms. She is very nervous and irritable.

THE basal metabolic rate was minus 4 per cent. The blood and spinal fluid Wassermann was negative.

The blood count and urine on admission were normal. The blood chemistry revealed an NPN of 34.6; Urea 14.2; Chlorides 440; Glucose 77 and Calcium 9.8.

Sugar tolerance test taken one week

after admission revealed a very low curve—one, too low to read on fasting, two, 85, three, 88.7, four, 86.2, five, 82.5, six, 86. The urinary sugar was negative throughout.

The blood pressure has varied from 120-140 systolic and 80-90 diastolic.

Capillary fragility test was negative on two occasions. Crampton test of vasomotor efficiency showed 10 on 7/14/38 and 55 on 7/21/38.

X-ray and fluoroscopic examinations of the chest revealed no evidence of any pulmonary or hilar infection. The diaphragms were clearly defined and normal in outline.

X-ray of adrenals was negative for calcification. The left kidney outline was not visualized, however.

X-ray of sinuses was normal although the frontals were poorly outlined. The sella turcica was normal.

X-ray of kidneys revealed normal filling of pelves and calices; function appeared normal. Left kidney displaced slightly toward the midline.

X-ray of the gallbladder showed poor function; smaller in size than normal; evidence of gallbladder pathology.

Ear, nose and throat consultation showed poor frontal sinus illumination but the headaches were attributed to some systemic rather than local condition.

Eye consultation showed no pathology.

Neurological consultation revealed no evidence of localized brain pathology or systemic neurologic disease.

IN view of the persistence of symptoms with medical care, and because of the feeling that the left lumbar pain was indicative of pancreatic newgrowth, an exploratory laparotomy was performed. The liver was normal. The gallbladder was explored and the ducts found to be normal. The pancreas was exposed in its entirety and found to be normal except for a moderate increase in size. There were no growths and no hemorrhages were seen. A biopsy was taken. An accessory spleen was removed. Histologically the pancreas was normal with numerous dilated canaliculi. The accessory spleen revealed no pathology.

Her postoperative course was significant in that her blood pressure was always within normal limits, the wound

healed by primary union, and for one month she was absolutely symptom-free. The blood sugar varied between 105 and 111. However, one month after operation the dizziness, fainting spells, headaches, back pains and constipation have returned. The fainting spells, headache and back pains have disappeared in the past few weeks on a low carbohydrate diet but the persistent constipation is still a problem.

HYPOGLYCEMIA does not always produce symptoms. The clinical picture is extremely variable. In mild cases the common symptoms are excessive hunger, weakness, tremor, excessive sweating, anxiety and inability to concentrate thoughts. Medical treatment of hypoglycemia has uniformly been unsuccessful. It is generally conceded that a high carbohydrate intake may increase the tolerance to carbohydrate and tend to lower the blood sugar, so that it has been recognized for a long time that low carbohydrate and high fat diets may lead to elevation of blood sugar levels. This can be explained by the fact that since the blood sugar rises but little, insulin production is not stimulated. In consequence the fall in blood sugar levels which would ordinarily ensue does not occur. The use of thyroid medication is indicated if the metabolism is low but little effect can be expected unless suf-

ficient amounts to produce undesirable toxic symptoms are given. Very little benefit is obtained from the use of such pituitary extracts as are now available. X-ray treatment directed to the pituitary has been used without success. When frequent feedings, diets and other measures fail to control the symptoms surgical intervention is justified. On the whole, however, operative results have been poor except where a pancreatic tumor is removed. All forms of stimulants are contraindicated.

Summary:

A CASE of hypoglycemia of unknown etiology is presented with a review of the literature to stimulate interest in this omnipresent syndrome and to indicate the difficulty of therapy and the difficulty of determining an exact etiology. There is no doubt that thousands of people have had spells of hypoglycemia diagnosed as low blood pressure, neurocirculatory asthenia, general debility, psychoneurosis, epilepsy, encephalitis, secondary anemia, tuberculosis, etc. It is urged that cases presenting themselves with weakness, easy fatigability, muscle aches, low blood pressure, headache and dizziness be studied carefully with this syndrome and its allied conditions in mind.
684 84TH STREET.



Carcinoma

OF THE LARGE BOWEL

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AN attempt to understand carcinoma of the large bowel necessitates a division of the organ into a right and

left half, and a study of the anatomy, physiology and pathology of the two parts, as the symptomatology is dependent upon the differences in structure, function and disease of the two parts.

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Anatomy

THE great intestine is equal to about one-fifth of the whole intestinal canal, usually measures about 5 to 5½ feet, and includes the cecum, a wide, short cul-de-sac. Its breadth is greatest at the cecum, and from this—with the exception of the dilatation at the rectum—it gradually decreases in width as it approaches the anus. At the cecum, when distended, it measures about three inches in diameter. Beyond this, it gradually diminishes, and measures only one and a half inches or less in the descending and iliac divisions of the colon.

Physiology

WHEN the contents of the small intestine pass the ileocecal valve, they contain a large amount of unabsorbed food material and digestive enzymes received in the duodenum, and absorptive processes continue, no doubt, as in the small intestine. An excess of fat or indigestible material in the large intestine causes diarrhea.

An interesting feature in the large intestine is the absorption of water. The loss of water is not compensated by a secretion. The material loses water rapidly while in the ascending colon, and, before it reaches the descending colon, has acquired the consistency of feces.

Pathology

CARCINOMAS of the right half of the colon are, as a rule, large, bulky, ulcerating growths. Notwithstanding their tendency to become large, fungating growths, medullary growths situated in the right half of the bowel do not tend to produce obstruction because of:

1. The liquid nature of the fecal current in this segment.
2. Lack of a tendency to encircle the bowel, the lumen of which is greater here than elsewhere in its course.
3. The likelihood that the growth will go on to penetration, perforation, or the formation of an abscess.

Carcinomas of the left half of the bowel are, as a rule, scirrhotic or fibro-carcinomatous, and tend to obstruct:

1. The carcinoma usually originates close to the mesenteric border, is

- scirrhotous, and spreads laterally, diminishing the size of the lumen.
2. The solid nature of the fecal column in this segment favors obstruction.

Symptoms:

In most cases, symptoms of the right half of the colon may be classified under three main groups:

1. So-called dyspepsia, mild in character, with few localizing symptoms, and usually diagnosed as chronic appendicitis or chronic cholecystitis. There may be no warning other than a change of bowel habit, or bowel irregularity, or alternating periods of constipation and diarrhea. Pain and local tenderness simulating subacute or chronic appendicitis, without a tendency to disappear, may indicate a cecal carcinoma.
2. Profound anemia; loss of weight and strength. There is a concomitant decrease of the entire blood picture, without visible loss of blood.
3. Mass accidentally discovered in the right iliac fossa (frequently) by the patient.

Symptoms of carcinoma of the left half of the colon are usually evidenced by:

1. Obstruction—acute, subacute or chronic.
2. Visualization of peristalsis.
3. Borborygmus.
4. Progressive constipation.
5. Bright red blood in the stool, due to irritation of the lesion.

Surgical Treatment—Right Half

1. (a) Ileocolostomy (aseptic) between terminal ileum and middle of the transverse colon.
(b) resection at a subsequent stage.
2. Ileocolostomy and resection in one stage, plus a complementary ileostomy.

Surgical Treatment—Left Half

1. Obstructive resection.
2. Decompressive maneuver (cecostomy or colostomy) or resection by obstructive type of maneuver, or resection and anastomosis.
3. Exteriorization maneuvers.
4. Resection and immediate anastomosis with or without a complementary cecostomy.

Prognosis—Right Half

Good, because metastasis takes place late; a diagnosis is made in many cases while they are in the operable stage. The constant anatomic relations render technical difficulties relatively easy to combat. The operation is aimed at extirpation of the disease and cure, rather than at a complication (obstruction), as in the left half.

Prognosis—Left Half

Less satisfactory, because of obstruction and its attendant toxemia; inconstant anatomic relations make resection more difficult and failure of union is more frequent, because of poor vascularization. Complications such as perforation and invasion are found in a high percentage of cases. Metastasis occurs earlier than on the right side.
218 82ND STREET.

EXPERIENCE IN THE NORWEGIAN HOSPITAL WITH A PHYSIOLOGICAL SUPPORTIVE PLAN OF TREATING

Pneumonia

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SINCE the beginning of the year 1913 I have treated all my cases of pneumonia according to a physiological supportive plan, the main features of which are suggested in the following outline.

The patient is kept in bed in the horizontal position, or near it, during the acute febrile period of the disease, and for a definite time thereafter. Mental rest is safeguarded as much as possible. Disturbing physical examinations are avoided. Full sponge baths are not allowed during the acute febrile period. And the patient is protected from drafts and chillings, especially near the expected time of defervescence and during convalescence.

A conservative policy governs the management of the bowels which forbids induction of regular daily bowel evacuations, and employs artificial evacuants only occasionally and for special rea-

sons: the judicious toleration of moderate constipation, during the active period of the disease, is considered generally more beneficial to the patient than the procedures involved in the artificial induction of bowel movements. But a certain latitude in this matter is allowed in prescribed ways. Cathartics by mouth are practically never given; enemas are given when considered necessary.

A special diet is given which is fluid and lactovegetarian, and which supplies liberal rations of water, salts and vitamins, but only moderate rations of protein and fuel. This diet is flexible in prescribed ways to meet varying conditions.

CIRCULATORY failure is treated according to a special program, which includes, besides physical and mental rest, dietetic regulation, conservative management of the bowels, avoidance of disturbing medication, and the use of certain drugs to meet particular cardiovascular indications. Of first importance among these drugs is strophanthin, which is given not routinely, but only when needed, and accordingly to a defi-

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nite but flexible program of dosage. Besides this drug, caffeine is often used; and very rarely, strychnine and adrenalin. The foods, sugar and calcium, are given for a special stimulant effect on the circulatory apparatus.

A conservative policy governs the treatment of symptoms. Symptoms are recognized as essentially constructive reactions on the part of the organism, which do not call regularly, but only occasionally, for treatment.

Dyspnea and cyanosis, when pronounced, are treated with strophanthin and caffeine, and with inhalations of oxygen.

Pulmonary edema is treated with strophanthin, caffeine and dietetic regulation.

Delirium is treated with physical restraint in preference to sedative drugs.

PAIN, restlessness, insomnia and distressing cough are sometimes treated with opiates in the early stages of the disease, but not, as a rule, in the later stages, when it may be necessary for the patient to keep awake and to breathe rapidly in order to live. Alcohol is sometimes given as a sedative in suitable cases. Hot poultices are sometimes applied to the chest for pleuritic pain.

Diarrhea is treated with modification of the diet.

Typhoid is treated with modification of the diet, and sometimes with soapsuds or oxgall enemas, and rarely with the insertion of a rectal tube.

The drugs above mentioned are used in their smaller dose ranges except in emergencies. Many patients go through their course without requiring any drugs.

All therapeutic procedures and feedings are timed so as to safeguard as much as possible the patient's needed periods of rest.

Since November 1, 1937, the therapeutic use of type specific sera in suitable cases has been added to this physiological supportive plan of treating pneumonia.

The details of this plan of treating pneumonia are fully set forth in my previous publications on the subject, and most fully in an article in the *International Clinics* of March, 1937.

I HAVE had an opportunity to observe, over a considerable period of time, the results of treating pneumonia according to this plan in my medical service in the Norwegian Hospital, Brooklyn, New York. These results have been reported on a number of occasions, the last being on April 2, 1938, at the annual meeting of the American Therapeutic Society. I will briefly summarize the report there given.

The period covered was from January 1, 1913, to January 29, 1938, excepting the interval between July 1, 1918, and January 1, 1920. The cases reported included all the cases diagnosed as primary lobar pneumonia and so-called influenza pneumonia that came into the above named service in the above named period, excepting a few convalescent cases inherited from previous services, and a few cases that entered the hospital so near the end of the service that their treatment belonged properly to the succeeding service. There was no selection of cases: cases moribund on admission were included with the rest.

The cases were reported in three series, because of differences in the diagnostic procedures. The diagnoses in the first series were made clinically, with ordinary laboratory help, but without the aid of full bacteriological examinations, and with only occasional aid of x-ray examinations. The diagnoses in the second series had, in addition, the support of x-ray pictures of the lungs in all the cases except two which died. The diagnoses in the third series were supported in all the cases by x-ray pictures of the lungs, and by reasonably full bacteriological examinations.

THE first series covers the period between January 1, 1913, and February 1, 1936, excepting the interval between July 1, 1918, and January 1, 1920. The total number of the cases was five hundred and three, and the mortality rate was 17.6 per cent.

It is interesting to compare with this series a continuous series of one hundred and twenty-four similar cases in the same hospital service during the six years immediately preceding January 1, 1913, which were not treated according to this plan, and which showed a mortality rate of 30.6 per cent.

The second series covers the period between November 1, 1936, and January 24, 1937. The total number of the cases was twenty-two, and the mortality rate was 9.09 per cent.

The third series covers the period between November 1, 1937, and January 29, 1938. The total number of the cases was fourteen and the mortality rate was 14.2 per cent. Eight of these cases showed pneumococci in the sputum of types suitable for specific serum treatment, and that treatment was given under the direction of Drs. R. H. Bennett and E. H. Loughlin. Of the two deaths in this series, one occurred in the eight serum treated cases, and one in the six cases treated without serum. Nine of the fourteen cases gave a history of a preceding influenzal syndrome, five being among the serum treated cases, and four among the cases treated without serum.

STATISTICS of the pneumonia cases in my service in the Norwegian Hospital during the current season, that is, from November 1, 1938, to January 24, 1939, can be added to the foregoing. Dr. Howard Brondum, the resident physician, who is preparing an analytical report of these cases, reports as follows:

Total number of cases admitted to the service between the above named dates, fourteen. Of these, four showed pneu-

mococci in the sputum of types suitable for specific serum treatment, which was given, and ten did not show such pneumococcus types. The diagnoses in all the cases were supported by x-ray pictures of the lungs. There were no deaths among the four serum treated cases, and one death among the ten cases treated without serum. (The patient who died entered the hospital in a moribund condition and died shortly after.) The mortality rate of this series was 7.1 per cent.

The mortality rate of the last fifty cases of lobar and so-called influenzal pneumonia treated in my service in the Norwegian Hospital was ten per cent.

After twenty-six years' experience with this physiological supportive plan of treating pneumonia, I report, as a general observation, that it improved the clinical picture of the disease and lowered the death rate.

Physiological supportive treatment helps the patient to cure himself. It does this to a certain extent by the use of positive procedures, and it does it to a large extent by removing obstacles, arranging a favorable environment, and avoiding meddlesome medicine. It is fundamental therapeutics. It is of universal application. And it does not conflict with, but invites, proper specific treatment.

1218 PACIFIC STREET.



LIPOID

Pneumonia

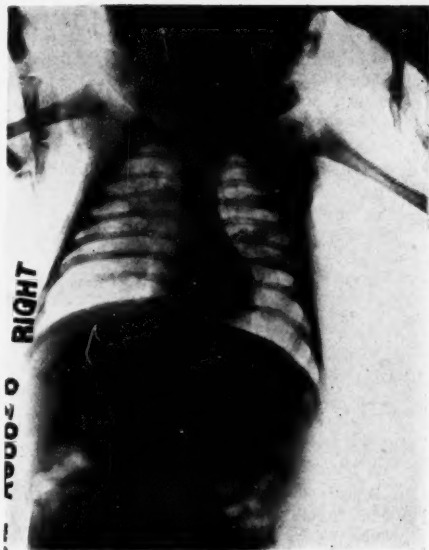
THE following report is based on the study of nine cases of obvious lipoid cell pneumonia, eight of which died. Seven cases were pathological studies and one case clinically resembled lipoid pneumo-

From the Pediatric Departments of the Norwegian Hospital and the Cumberland Hospital.

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nia. It was noted that lipoid pneumonia is often discovered postmortem. It was found that these patients are often feeble and many times are kept in the supine position; and that they have some mechanical or nervous interference with



CASE I.—X-Ray shows persistent shadow in the lungs bilaterally. Areas of consolidation right in peribronchial zone. This shadow persisted until time of death.

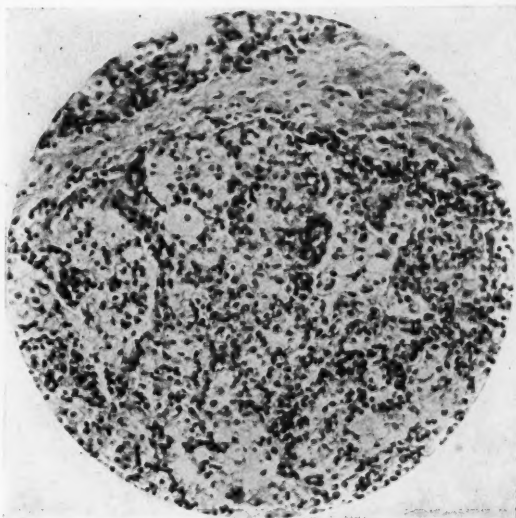
were 86 to 88 per minute, and periods of apnea. The temperature was normal. The respirations were so rapid that they interfered with her nursing. Her cough was hacking and unproductive. The blood count was normal. X-ray shadows revealed extensive bilateral infiltration in the hilar spaces. In spite of the extensive involvement shown by x-ray, no clinical signs were obvious, but there was some impairment of resonance at the right base posteriorly. This x-ray shadow did not diminish in density at any time during her stay in the hospital. After eleven days of observation, she developed signs of bronchopneumonia, dehydration and diarrhea and in spite of three transfusions she expired.

One case studied clinically (case 9) showed intense shadows in both lungs and severe under-nutrition; she had a hacking cough which was for a time thought to be pertussis. At four months she weighed ten pounds; respiration—62 per minute. Repeated Mantoux tests, even to

deglutition, such as cleft palate, gagging, vomiting, or convulsions.

It is pertinent at this time to mention that prematures are often wrongly nursed and that the pernicious habit of leaving nursing bottles in their mouths, while the bottle rests on a pillow, should be condemned.

One case was observed immediately after ingestion of mineral oil. The child was a female, seven weeks of age, weighing nine pounds, and in good condition. She was forcibly given mineral oil while crying. On examination by me soon after, the infant was in profound distress with a hacking cough, exceedingly rapid respirations, which



CASE III.—High Power. Engorgement of blood vessels including alveolar capillaries. Many alveoli contain edema fluid, and large pale staining vacuolated-mononuclear cells with foamy cytoplasm; plasma cells and polymorphonuclear leukocytes, desquamated epithelium, and mucus.

two milligrams, were negative. This child had received mineral oil daily for constipation, also albolene drops by nose.

The other seven cases were all studied histologically and the clinical records were re-examined postmortem, and in retrospect it was observed that some of them had a history of chronic lung pathology, as may be seen by the protocols and clinical record. The widespread use of oils by nasal instillation or sprays and mineral oil by ingestion have contributed largely to this condition; although milk fat and cod liver oil have

also contributed to the causation of this disease. The fatty acids of the latter two substances seem to produce the worst clinical condition. They cause quite sudden and often violent reaction in the lungs with hemorrhage and necrosis. Milk fat is perhaps the most frequently encountered in patients that are premature, weak and comatose. There are some who vomit frequently and the regurgitated milk finds its way into the trachea. Feedings by gavage may also contribute to this cause. Cod liver oil and petrolatum when found in the lungs are

Case Patient Date	Age Sex Source	Specific Symptoms	Physical and Roentgen Examination	Pathologic Report
1 C. R. Norw. & L.I.C.H. 6/22/36 died 6/28/36	7 weeks female mineral oil	Cough, difficulty in nursing, very rapid respiration. Lungs: — Percussion note impaired in left upper anteriorly and posteriorly. Some crackling rales.	Persistent shadow in the lungs, definite areas of consolidation right lung particularly in peribronchial zone with some peribronchial consolidation in left lower lobe. There is also some change in peribronchial zone on left side. This shadow persisted until time of death.	
2 G. T. 71361 CUMB. 10/4/37 died 10/10/38	8 mos. male Milk fat mineral oil	Admitted with lobar pneumonia, cough, convulsions.	The lower left half of the left lung field is obscured by a very slight homogeneous opacity which shows plainly through the costal grill. On the right side lateral examination reveals some condensation of the pulmonary tissue in the region of the left pulmonary root. Findings are suggestive of central pneumonitis or a plugging of one of the main bronchi subserving the left lower lobe. Weight 19 lbs. Temp. 101-103.	Lungs and visceral pleura—left upper lobe is consolidated. On section presents a smooth, gray appearance. The left interlobar fissure is obliterated by fibrino- plastic exudate. The left lower lobe is flabby, noncrispant and congested. Right lung shows decreased aeration and is moderately congested. Micro:—Section of left lung shows a rich fibrinoplastic exu- date of the pleural surface made up of polymorphonuclears entangled in rich fibrinous network and showing areas of necrosis. The areas of lower lobe show the alveoli in various degrees of col- lapse, with marked thickening of septal framework by congestion and swelling of histocytes. There are many areas in lobes of left lung and right lower lobe showing alveoli containing large mononuclear cells with lipid material and infected particles characteristic of lipoid pneumonia.
3. M. M. 69839 Cumb. died 3/20/38	2½ mos. female c.i.o. Milk, fat	Hacking cough for month; ad- mitted with symptoms of bronchopneu- monia. Temp. 104.	Child received ¼ tablespoon of cod liver oil per day. Weight—6 lbs. Pre- mature birth. Birth weight—4 lbs. 2 oz. Mantoux neg. Nutri- tional disturbance. Clinical diagnosis and x-ray showed bronchopneumonia.	Micro.—Engorgement of blood vessels in- cluding alveolar capillaries. Many alveoli contain edema fluid and large, pale staining vacuolated mononuclear cells with foamy cytoplasm, plasma cells and polymorphonuclear leukocytes, desqua- mated epithelium and mucus. Section of left lower lobe shows similar changes in the alveoli. Gross—shows that pos- terior portion of all lobes are consoli- dated.
4. 61635 adm. 12/12/35 in hosp. for 2 mos. readmitted 12/12/36 Adm. again on 5/26/37 died. 12/12/37 died 1/10/38	2 mos. female c.i.o. mineral oil	Pneumoniatrice. Repeatedly showed x-ray findings of un- resolved pneu- monia.	There is incomplete consolidation in the right upper and middle lobes. Com- parison of present x-rays with those taken previously shows very slight resolution of pneu- monic process. Clinical opinion—un- resolved pneumonia. This child finally died of hydropneu- mothorax, lobar pneumonia.	The entire right lung is covered with thick green fibrinous exudate. Micro:— Lungs show abscess cavity with necrotic and purulent material which is contin- uous with pleural exudate. The sur- rounding alveoli are filled with fibrin and large mononuclears laden with pale lipoid & polys. The swollen bronchioles nearly are almost completely destroyed and their lumina are filled with purulent exudate and lipoid-bearing mononuclear cells.

caused by vomiting or struggling against the administration of these substances. As has been demonstrated by Cannon and Walsh in the *Archives of Pathology* (23:744, 1937), bland oil applied in the rhinopharynx can go into the lungs without inducing a cough.

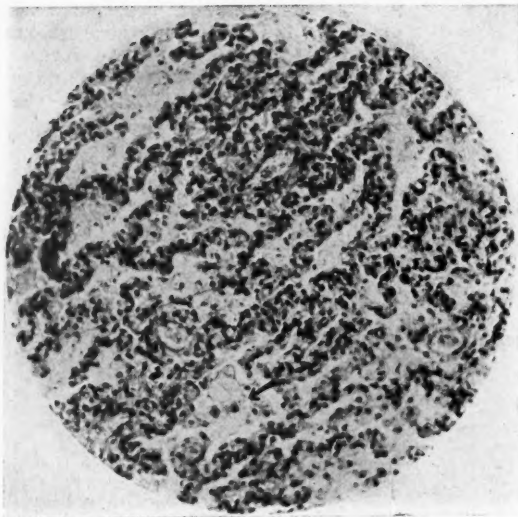
Diagnosis:

THE characteristic findings in uncomplicated cases are rapid respirations with dyspnea, a hacking cough, very slight fever or absence of temperature

rise; the white count is usually normal as is the differential count; x-rays show diffuse shadow occupying the central parts of both lungs, a finding totally out of harmony with clinical findings; the x-ray shadows are constant and may show only slight decrease in a period of four to six weeks. It is by this means alone that one realizes the extent of the lesion and its chronicity.

In lateral plates there is more involvement posteriorly than anteriorly. This is often due to the fact that the condition

Case Patient Date	Age Sex Source	Specific Symptoms	Physical and Roentgen Examination	Pathologic Report
5. R. A. 55630 Cumb. 2/5/36 died 2/9/36	6 mos. female c.i.o. milk fat	Fever, persistent cough, convul- sions, dimi- nished resonance left lower lobe. Temp.—103-104 for four days.		Gross:—Pleura is smooth, lungs pale pink, mottled with yellow; more firm than usual. Micro.—Some of the larger ves- sels contain thrombi. Occasional bron- chi are partially collapsed and some con- tain, in the lumen, large fat-bearing cells. The alveolar walls are thickened and congested. There are a few small areas of hemorrhage in walls and alveoli. The lipid-filled cells fill many of the alveoli completely, causing consolidation.
6. Cumb. 59877 8/6/36 died 10/12/36	1 mo. milk fat	Fracture poste- rior parietal region. Hydro- cephalus, nutri- tional distur- bance. Temp. 9/8/37- 100, one month after, 101-102.	Suspicion of atelec- tasis, suppressed breathing.	Gross:—Atelectasis—several surfaces of emphysema, most of them pulmonary. Tissue is pink and dense. Bronchi and vessels normal. Micro.—Patchy areas of atelectasis. Some of these areas are the seat of consolidation with numerous lipoid-bearing phagocytic cells. Occa- sional bronchus contains phagocytic cells.
7. 46452 8/7/34	male milk fat	No fever, condi- tion poor, had esophageal di- verticulum, ra- surgitated daily.	X-ray showed diver- ticulum of esopha- gus.	There are very few expanded alveoli. The others are filled with desquamated alveolar cells and large cells with foamy cytoplasm and one or more eccentric nuclei. Some of these cells contain pig- ment. The bronchioles are unexpanded and lined by columnar epithelium.
8. 10/28/38 died 12/11/38	5 mos. female Milk fat c.i.o.	Constipation, cough, became irritable, fever, coryza, rapid respiration.	X-ray confirmed di- agnosis of broncho- pneumonia. Admission weight— 11 lbs, facies mon- goid with slanting eyes; fat nose, prominent epicanthus and large protuber- ant tongue, no den- tition.	The visceral pleura is smooth and glisten- ing. The lower lobes are dark red and congested. The upper lobes are pale gray and on section are pale gray and firm. The lower lobes on section are red, con- gested and contain small gray areas throughout. Micro.—Section of the R.U. and R.L. lobes shows small bronchi and bronchioles to be dilated and lined by cuboidal epithelium. There are papillary projections present in numerous bron- chioles. The latter and also the alveoli are filled with lipid and numerous mononuclear cells with fat droplets.
9. 71139 R. W. Now. 2/22/38 disch. 3/2/38	6 weeks male mineral oil	Cough, dyspnea, drowsiness.	Impaired percussion note over entire chest, especially right side, posterior- ly. Crepitant and coarse rales. X-ray showed small area of infiltration in upper left and lower right chest— not typical broncho- pneumonia. infiltration in L.U.L. cleared up. Still small amount pres- ent in R.L.L.	Discharged as recovered on the eighth hospital day.



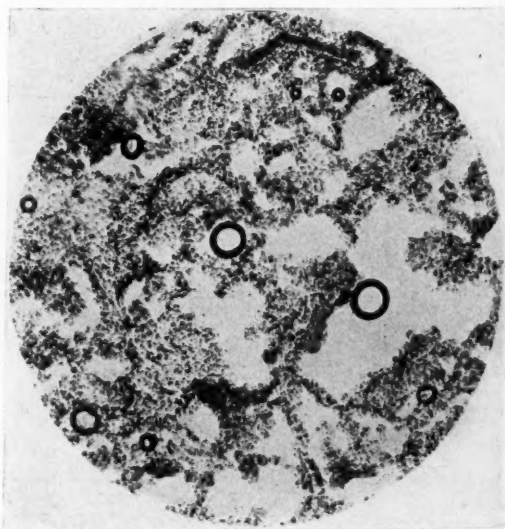
CASE IV.—High power. Mononuclear cells with foamy cytoplasm, plasma cells, and desquamated epithelium.

occurs in infants who are constantly supine. When x-rays, taken at intervals, show little advance or regression of the above lesions, lipid cell pneumonia should be seriously considered. Tuberculosis is possibly the only other condition to be thought of. The course of lipid pneumonia is determined by its associated conditions. When it is uncomplicated, it tends to improve. This improvement is slow and little difference is noted from week to week. Months may elapse before physical examination or x-rays show any diminution of pulmonary consolidation. This condition is often erroneously called chronic pneumonia, unresolved pneumonia, or tuberculosis. The rapid respirations gradually diminish and the cough slowly disappears. Failure to gain seems to be intimately associated with lipid pneumonia.

Pathology:

THE anatomical changes are brought about by the amount of fatty acids produced by the aspirated material. The mild vegetable oils such as sesame and olive oil seem innocuous, while cod liver oil, milk fat and other animal fats cause a sudden reaction with hemorrhage and necrosis. Aspiration of liquid petrolatum causes a proliferative pneumonia. Very soon after the ingestion of lipid material, mononuclear phagocytes appear in the alveoli and engulf the oil as it becomes emulsified. The portions of the lung containing this material become consolidated with large numbers of these mononuclear cells. Many of these

CASE V.—Low Power—Show sections of lung stained for fat. Shows extensive areas of fat-staining material. The lumina of the bronchi show large fat-bearing cells. This section under low power stained red and demonstrates how extensive the fatty material infiltrates pulmonary tissue.



cells coalesce to form giant cells. Some cells go to the lymphatics and finally to the bronchial lymph nodes.

The final stage in the pathology is fibrosis of the interalveolar septa and fibrous nodules around large collections of lipid material. These resemble tubercles. They are about 2½ cm. in diameter. If there is a superimposed infection the changes in the lungs are quite different, as may be noted in the protocols. The difference in the picture depends on the age of the process and the amount of secondary infection.

Prognosis:

IN uncomplicated cases the prognosis is good.

Comment:

MEDICATED oils and mineral oils are toxic to pulmonary tissue; free fatty acid in cream and cod liver oil causes necrosis and hemorrhage (Cannon and Walsh). 5 to 10 per cent neosilvol or argyrol has been introduced in the nostrils of rabbits; it went into the

lungs just as oils did, causing edema, hemorrhage, necrosis and pneumonia. Zinc sulfate, picric acid and tannic acid sprays caused pneumonia in rabbits with similar changes in the lungs as above described.

There is no clear cut evidence that any antiseptic solutions are actually antiseptic when placed in the upper respiratory tract. Bronchiectatic pus mixed with a solution of neosilvol, argyrol and thymol isedrine after many hours exhibited no notable diminution in the numbers of bacteria in pus.

How can antiseptics penetrate underlying tissues where the infection is active? Since some of these materials disturb ciliary action and a normal flow of mucus, and injure the epithelium, is there any clear cut indication for their local use at all?

Finally, let us use an extreme degree of care in comatose children and prematures, for, not infrequently, they are subjected to forceful and improper feedings with the results shown in the above mentioned protocols.

861 CARROLL STREET.

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SKIN VITAMINS A AND D

—Concluded from page 311

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121 EAST 60TH STREET.

AMBULANT TREATMENT OF

Peptic Ulcer

BERNHARD A. FEDDE, M.D.
Brooklyn, N. Y.

A WORKING man or woman comes into the office with the following story:

Age, anywhere from 25 to 60. History of epigastric discomfort ranging up to boring, burning pain, usually about half to two hours after meals, and occasionally after midnight; frequently relieved by milk or by food. Heartburn, gaseous eructations, sometimes sour fluid. No hematemesis. This syndrome has appeared repeatedly, commonly in the Spring and Fall, for a few or many years, and has lasted one or two months at a time. There has been little loss of weight.

On examination, heart and lungs are normal; there may be tenderness in or near mid-epigastrium, without rigidity. No tumor mass found. In short, our diagnosis is pylorospasm, with a high probability of gastric or duodenal ulcer.

In the great majority of cases it is not necessary to hospitalize the patient for either diagnosis or treatment. He consults us for relief of his trouble, and the satisfaction of our scientific curiosity is usually not—to him—worth his few hard-earned dollars. There is a regimen which in my hands has relieved about 80-90 per cent of these patients. It constitutes also a therapeutic test; if within two weeks the symptoms are not relieved, the patient should be hospitalized for more thorough study. On the other hand, the patient should not be forthwith dismissed if he returns at the end of the first week saying that he has felt perfectly well since the third day of

treatment; the chances of early relapse are too great.

ALL workers agree on one point: It is essential to keep the free HCl low, and to combine or neutralize it as nearly continuously as possible.

What are the factors which stimulate secretion of HCl?

1. "Appetizing" food. Meat and meat products, particularly bouillon and meat soups. Sugar and sweets.

2. Mild irritants, spices, coffee, chocolate and cocoa.

3. Tobacco, whether smoked, chewed, or snuffed. Furthermore, whether nervousness and undue fatigue increase HCl secretion, I am not prepared to say, but there is no doubt that they initiate and aggravate the symptoms.

Heiser has called attention to the role of vitamins in gastric and intestinal ulcers. The inhabitants of Madras and Travancore in India, living largely on pure tapioca flour, have a very much higher incidence of gastric and intestinal ulcers than the Sikhs and Pathans, whose diet is mainly sour curds, a small amount of meat, plenty of green vegetables, and whole wheat bread—in short, a high vitamin diet.

My scheme of treatment, then, is as follows:

No tobacco in any form—and you had best make it a life sentence. Minimum of eight hours sleep. Resolute ignoring of worries. No violent exertion, but ordinary work may be continued.

Diet:

1st week

Breakfast, lunch, supper.

1 or 2 eggs—any style except fried.
 No catsup or other condiment except a little salt.

Read at the Annual Meeting of the Associated Physicians of Long Island, at the Norwegian Hospital, Brooklyn, January 28, 1939.

1 or 2 glasses milk. Sip it slowly between bites.

Do not mix food and drink in the mouth.

6 soda crackers with a thick spread of butter, and cream cheese.

Orange juice *after* breakfast and *after* supper.

Besides this, and probably most important of all:

Every hour, on the hour, of waking time, sip slowly $\frac{1}{2}$ to 1 glassful of milk.

I give the patient a prescription:

R Magnesia usta 3ii
Bismuthi subnitrat 3ii
M.S. Teaspoonful in $\frac{1}{4}$ glassful water
three times a day, before meals.

This is to be continued for the duration of treatment, and for several weeks afterward.

THE patient returns in one week, with a small sample of stool, which will be black from the bismuth (I warn the patient of this beforehand). This I test for occult blood.

The urine is also tested for sugar, diacetic acid and acetone.

Usually the pain has disappeared by the third day, the fluid eructations about the same time, and the gaseous eructations have much abated by the end of the week. Weight is at least stationary—many carpenters even have gained a pound.

Epigastric tenderness is frequently still present. Its severity is estimated as compared with the first visit.

If pain is still present, the same diet is continued for another week. If the food is vomited I substitute strained unsweetened oatmeal-and-water gruel, eggwhite, raw or coddled, and diluted orange juice, 3 ounces every hour, gradually adding milk to the gruel until full milk can be tolerated, then start again with the first week's diet.

ON the other hand, if satisfactory progress has been made, he receives the following directions:

Continue milk and egg and orange juice as before.

1. Instead of soda crackers, substitute stale white bread, with butter and cream cheese. *Cut away the crust.*

2. Add:

a. Cereal, with milk or cream

Oatmeal

Cream of wheat

Pettijohn

Puffed rice

Cornflakes.

No Sugar.

b. Mashed potato with butter or milk or cream.

No gravy or pepper.

c. Rice boiled 20 minutes in salted water. After cooking may add warm milk, but do not boil the two together.

d. Wheat germ, embo or bemax, two tablespoonfuls on breakfast cereal or in milk.

e. Percomorph oil capsules 3-4 daily.

If the first stool has contained blood, a second specimen is required at the next visit. On the third visit, symptoms are again checked off, and if satisfactory the following written directions are given:

3rd Week:

Continue as before:—Milk every hour, eggs two or three times a day, cereal, etc.

Add:

Strained creamed vegetable soups of

Asparagus,

Cabbage,

Carrots,

Cauliflower,

Celery,

Cracked corn,

Green peas,

Spinach,

String beans,

Tomatoes.

No meat stock. The vegetable is to be cooked—not too long—in salted water, then squeezed through a strainer so as to leave only woody fiber behind, and the resulting soup or purée creamed in the usual way.

At this point the patient is usually excused for two weeks, with directions to partake of the cooked *unstrained* vegetables, plus green lettuce leaves in the subsequent week. Mayonnaise, etc., is forbidden, but sour cream may be used as salad dressing.

FOR the 5th week, these additions are given:

1 Boiled or broiled fish, except

Mackerel,
Shad,
Salmon.

Butter or white sauce.

Fish products—fishballs, cakes, soup,
pudding.
No spices.

2 Desserts:

Thoroughly ripe bananas, with cream.
Cup custard—minimum of sweetening.
Jello—fruit flavors only.
Vanilla or strawberry ice cream.

IN the 6th week, progression is made through
White meat of chicken—no gravy.
Roast lamb or beef—cut away the
outer browned crust. May have pan
gravy.

Eye of lamb chops.

When the patient has painlessly gone through these stages, he is dismissed with these admonitions:

Continue on present diet, with milk between meals, and powder, for at least 1-2 months.

No coffee, chocolate, cocoa.

No sugar, candy, sweet cakes.

No hot spices, pepper, mustard, catsup, mayonnaise, etc.

No tobacco.

No fried food.

Chew all food to a fine pulp before swallowing.

Do not mix food and drink in the mouth.

454 NINTH STREET.



ULCERATIVE

Tonsillitis

ERNEST A. BROOKS, M.D.
BROOKLYN, N. Y.

THE tonsils are often the seat of local acute and chronic infection and become ulcerated in many illnesses. The appearance of these ulcerations interpreted in the light of the symptoms leads to correct diagnosis. Tonsillar ulcerations are caused by thrombosis of vessels following bacterial invasion with ischemia and necrosis. Rare cases of tonsillar ulceration are encountered in private practice. They may be grouped according to the method of diagnosis, for example, cancer, syphilis and tuberculosis by biopsy, leukemia, agranulocytosis and mononucleosis by blood study, and diphtheria, streptococic and Vincent's angina, and mycosis by smear and

culture. Blood count and smear should be routine in all of these cases, and biopsy should be done whenever the temperature seems unexplainably low.

Tuberculous ulcerations of the tonsils are rare and are caused by degeneration and breaking down of the tubercles under the mucosa. They are small and punctate, but sometimes coalesce into larger ones. When they occur close together they form a shining grayish-red granulation tissue which does not bleed very easily when manipulated. There is usually no true membrane. When a chest lesion is demonstrated, a biopsy of the tonsil is indicated. Treatment of tuberculous ulcerations of the tonsils and pharynx is chiefly symptomatic, using quartz light, diathermy or cautery. Local application of medicines is of little avail. Leproma tonsillar ulcerations may pass unrecognized or be incorrectly diagnosed as tuberculosis. The biopsy, of course, helps to differentiate these two.

Read at the Annual Meeting of the Associated Physicians of Long Island, at the Norwegian Hospital, Brooklyn. January 28, 1939.

CANCEROUS degeneration forming tonsillar ulcerations possesses the same predisposing factors as oral lesions. Bleeding is a characteristic symptom of this group, including the lympho-epitheliomas and transitional cell cancers, which are highly malignant but which fortunately are radiosensitive. The treatment is mainly x-ray therapy, although surgery must sometimes be employed.

Gummas are the most frequent of the granulomas and are characterized by the rapidity of formation of ulcerations about the tonsil and nasopharynx. Early diagnosis to avoid deformity can be made by use of biopsy. Iodides in massive doses should be given early.

Acute mononucleosis produces tonsillar and faucial ulcerations which are round and shallow with punched edges, covered by a thin white membrane which bleeds upon removal. An area of inflammatory reaction surrounds the ulcers. Diagnosis hinges upon the blood count showing mononuclear lymphocytosis with fenestration of the nuclei when the patient exhibits fever and adenitis. The heterophile antibody test is positive in all cases, even in dilution of 1:80. A smear from the throat will show a preponderance of spirochetes and rods. Treatment is symptomatic and arsphenamines.

Agranulocytic angina always shows tonsillar ulcerations. They are pale, sharply defined, do not bleed readily, and are surrounded by very little inflammatory reaction. Diagnosis is not difficult by means of a blood count and differential. Treatment consists of repeated blood transfusions, pentonucleotide, liver extract, and yellow bone marrow orally.

THE acute leukemias frequently exhibit tonsillar ulcerations, the ulcers being deep and pale and bleeding readily. Treatment consists of repeated blood transfusions. The prognosis is very poor in these cases. Sternal puncture is an aid to the diagnosis of acute leukemia.

Of the third group, Vincent's angina is the most frequent. The ulcers are single or multiple, assume crater-like sloughs, and show a whitish pulpy exudate which may be readily removed without causing bleeding. A single lesion may become so extensive as to extirpate the entire tonsil. Diagnosis hinges upon find-

ing the Vincent's organisms from a direct smear and careful interpretation of the whole picture presented, when organisms are few in number or absent. Treatment consists of removal of the slough and local and intravenous arsphenamines.

Tonsillar mycoses can produce shallow surface ulcerations. Examination of the throat with a good light and examination of a throat smear insure diagnosis.

DIPHTHERITIC lesions of the tonsils are the hardest to diagnose in the opinion of the author, for they are difficult to differentiate from streptococcic tonsillitis. While both types show shallow ulcerations, the streptococcic variety is more blotchy and usually starts from the crypts. Diphtheritic ulcerations are covered by a thick and tough membrane and bleed uniformly when the membrane is removed. The toxemia and cervical adenitis are not diagnostic, but smear and culture clinch the diagnosis with certainty. The treatment is well known and will not be covered in this article.

The pneumococcus may invade the tonsils and posterior pharynx, causing moderately extensive necrosis and a plushy white homogeneous membrane. Local applications of 1 to 2 per cent solution of optochin and sulfanilamide are effective in mild cases and antiserum in severe cases with removal of the membrane and supportive measures.

A few cases of very extensive tonsillo-faucial necrosis with severe prostration and collapse or even early death have been seen. The causative agent seems to be the usual mouth organisms, with no one type predominating. The most popular treatment is blood transfusions, intravenous arsphenamine, sulfanilamide and very careful attention to a generally supportive regimen.

IN conclusion, one must use acutely keen judgment at the bedside in observing tonsillar ulcerations, examine smears under the microscope, culture the obscure smears, and make a habit of having blood counts and biopsy examinations routinely where indicated. Laboratories can not supplant intuition and clear reasoning, but their judicious use at times makes patients our friends.
422 81ST STREET.



CONTEMPORARY PROGRESS

Treatment of Pneumonia with Sulfapyridine

W. H. LOHMAN and R. M. BOGUE (*Brooklyn Hospital Journal*, 1:122, Apr., 1939) report 25 cases of pneumonia in adults and children treated with sulfapyridine (M B 693), i.e., 2 (p-aminobenzene-sulfonamidol) pyridine. Antipneumococcic serum is used in those cases in which it is of known value. The cases in which sulfapyridine was used were: cases of pneumococcus pneumonia of types for which there is no antiserum of established therapeutic value, including 6 cases of Type III; cases of pneumococcus pneumonia in which the disease was of so advanced a stage that serum is known to be of little value; or in which serum treatment had failed; cases of pneumonia due to organisms other than the pneumococcus, chiefly streptococci of various types and *B. Friedländer*; a few cases in which bacteriological diagnosis had not been established within twenty-four hours after admission to the hospital. Blood cultures were made from the 19 adult patients, and all were negative. For adults the dosage of sulfapyridine was 8 gm. for the initial dose, followed by 1 gm. every four hours until 25 gm. had been given, or until definite improvement was obtained; many patients did not require the full dose of 25 gm.; one patient was given 50 gm.; the average dose was 17.5 gm. For children the dosage was calculated at 0.2 gm. per kg. body weight, given in divided doses for the first twenty-four hours; one-half this dosage for the sec-

ond twenty-four hours; if the temperature is not normal, the same dosage may be continued for another twenty-four hours. The most usual undesirable reaction was nausea, sometimes vomiting;

this was never sufficiently severe to make it necessary to discontinue treatment; in some cases small doses of a sedative controlled the vomiting. Cyanosis was never serious. In

one case, after the administration of 50 gm. of sulfapyridine, the patient developed jaundice and severe anemia of an aplastic type that was fatal. There was only one other death in the series; all of the Type III cases recovered. One case is reported in which the patient recovered rapidly after sulfapyridine was begun, although his condition was serious and serum treatment had failed (Type VIII). In the other cases, there was usually a prompt fall in temperature (within forty-eight hours) after sulfapyridine was given; and an accompanying improvement in the toxic symptoms. Repeated examinations of the blood are desirable during sulfapyridine therapy to minimize the more serious toxic effects of the drug. The true value of sulfapyridine in pneumonia and its relation to serum therapy can be determined only by further study.

COMMENT

Using sulfapyridine in Type 3 cases or in cases of pneumococcus pneumonia in the advanced stages is certainly putting it to a severe test. The results were encouraging in these severe cases.

The fact that sulfapyridine works in these



MEDICINE

severe cases should encourage its use in preventive work. I have been using it for influenza and feel that it is a good preventive against pneumonia. Also, it should be used in severe cases of measles and whooping cough as a preventive against pneumonia. I would not be surprised if one of the greatest uses of sulfapyridine in the future were in the actual prevention of these diseases. It is from reports like this one, showing that the drug does work so well in very severe cases, that one takes more courage in its use for prevention.

M. W. T.

Coronary Thrombosis in Persons Less Than Forty Years of Age

W. H. GOODSON, JR. and F. A. WIL-

LIUS (Minnesota Medicine, 22:-291, May, 1939) present a study of 30 cases of coronary thrombosis in patients under forty years of age. All but 3 of these patients were between the ages of thirty and thirty-nine of age. All but 3 under thirty, one was twenty-two, the other 2, twenty-nine years of age. There were 24 males and 6 females, a ratio of 4:1; this is in agreement with the usual sex incidence of coronary thrombosis. The diagnosis in these cases was based on typical histories of the disease and electrocardiographic studies showing "relics" of the disease; or on typical clinical symptoms discovered in examination of the patients who suffered thrombotic closure while under observation confirmed by electrocardiographic or autopsy findings. The family history showed angina pectoris, coronary thrombosis, sudden death, or "heart

disease" in 65 per cent of this series. The previous illnesses of the patients showed the usual infectious diseases of childhood and adolescence and could not be related to the early development of coronary disease. In 3 cases there was a history of previous rheumatic fever, but in no instance was there any evidence of rheumatic heart disease. In 8 cases "an anginal syndrome" preceded the acute coronary closure by an average interval of a month and a half. In 22 cases, the coronary thrombosis was "the first expression of the disease." When the thrombosis occurred, 3 patients were engaged in strenuous work, 8 in "moderate activity," 4 had just completed a meal, 3 had just awakened from sleep; "the status of activity" was not

recorded in 12 cases. In all but 3 cases pain was a symptom of the attack; one patient had severe nausea, one a feeling of suffocation, and one a sense of distention. Electrocardiographic examination was made in 29 cases; in 24 cases the "electrocardiographic patterns" indicated the presence of infarcts, in the anterior wall of the left ventricle in 9 cases, in the posterior basal portion of this ventricle in 15 cases. In 5 cases electrocardiograms were

made a considerable time after the acute occlusion and were essentially normal. One patient—the youngest—was under observation for only a short time before death; autopsy showed the presence of acute infarcts. At the time of this report, 8 patients have died; the average period of survival after the first acute attack of thrombosis was twenty months; 2 died the day of the second occlusion.

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Ten of the patients have had two attacks of thrombosis from one month to six years after the first. The authors report these cases to emphasize the fact that coronary thrombosis is occurring with increasing frequency in young persons; "an alert suspicion" must be maintained in regard to presence of this disease in younger patients showing suggestive symptoms.

COMMENT

In all probability coronary thrombosis in persons less than forty years of age has not been uncommon but has not been recognized. More and more cases are being reported in the literature. Any young person who complains of dyspnea should be thoroughly investigated. Most all of these patients give a history of dyspnea for quite a period of time before having an actual attack of coronary thrombosis.

If there is a family history showing angina pectoris, coronary thrombosis, sudden death, or "heart disease", one should be careful in questioning the patient about dyspnea. It is in patients of this type that something can be done from the standpoint of preclinical medicine.

An increased blood cholesterol may or may not indicate arterial degenerative changes. Fluoroscopic examination may show a diminished amplitude of the left cardiac border. Still more important is the diminished amplitude of the aortic pulsations.

It would seem in these cases that one is justified in giving a protective regimen: modified exercise, low caloric diet, and avoidance of sudden exertion. Recent reports, however, show that sudden exertion and strenuous work do not seem to precipitate attacks any more often than unknown factors while the patient is asleep.

M. W. T.

Effect of Benzedrine Sulphate on Gastric Emptying and Intestinal Activity

K. H. BEYER and W. J. MEEK (*Archives of Internal Medicine*, 63:752, Apr., 1939) in previous experiments on dogs have found that benzedrine sulphate given orally decreased the initial emptying time of the stomach to 31 per cent of the normal but increased the final emptying time about 14 per cent. In experiments on 10 normal subjects x-ray studies showed that three 10 mg. tablets of benzedrine sulphate given by mouth

fifteen minutes before the opaque meal decreased the time for initial emptying to about 42 per cent of the normal, but increased the average time for final emptying 21 per cent. In experiments on normal animals no effect on the intestine was demonstrated even with toxic doses of benzedrine. Only by using intestinal strips and concentrations of benzedrine "unapproachable in the normal animal" could any decrease in tonus be demonstrated. On the basis of their findings in both human subjects and experimental animals, the authors conclude that the decrease in the initial emptying time of the normal stomach following administration of benzedrine is to be attributed to the primary increase in tonus and activity of the stomach raising intragastric pressure; this forces the gastric contents through a pylorus "the tonus of which, if altered by the drug, may relatively be only slightly increased, rhythmicity being correspondingly diminished." The delay in final emptying is to be attributed to secondary inhibition of the stomach and possibly increased pyloric tonus. The stomach "does not fully recover from the secondary inhibition" for more than an hour, but final emptying is not prolonged "to a very significant extent." The findings indicate that the value of benzedrine sulphate in overcoming functional pylorospasm of moderate degree depends upon initial gastric stimulation overcoming pyloric resistance rather than on any direct inhibiting effect on pyloric tonus.

COMMENT

I believe that the effects of drugs noted on various activities depend in great part upon the dosage. The effect is entirely different if small or large doses are given. Three 10 mg. tablets of benzedrine administered fifteen minutes before the examination is made may give one effect while one-half that dosage may give the opposite. This is a fact worth considering in forming conclusions on many other drugs.

M. W. T.

Development and Importance of Hypertension in Chronic Bright's Disease

H. O. MOSENTHAL and H. H. LANDER (*Annals of Internal Medicine*, 12:1449, March, 1939) report 124 cases

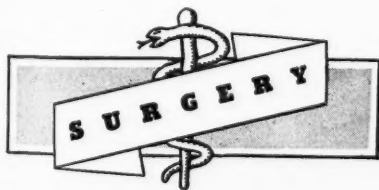
of chronic Bright's disease, in which the blood pressure was normal in 36 per cent; high blood pressure was associated with marked renal insufficiency in 19 per cent; but hypertension was present in 45 per cent with little or no renal insufficiency." Hypertension of marked (chronic diffuse glomerular nephritis), in which the initial symptom is albuminuria, the authors' findings indicate that the order of events is "albuminuria first, hypertension next, and finally, renal insufficiency." Hypertension of marked degree may be the cause of death before there is any definite impairment of renal function. In 2 patients, with high blood pressure and albuminuric retinitis, change from a low protein to a high protein diet resulted in lowering of the blood pressure and improvement in or complete disappearance of the retinitis. In one case a final rapid rise of blood pressure might be attributed to a high protein diet, but in 2 other cases, high blood pressure developed while the patients were on a low protein diet. These cases are cited because the authors do not believe that a high protein diet is the cause of hypertension. They suggest

two possible explanations for the early development of hypertension in chronic diffuse glomerular nephritis before any marked or persistent azotemia develops. The hypertension may be brought about by a latent renal insufficiency not shown by the usual clinical tests; or the progressive involvement of the kidneys by the nephritis may, through autolysis, produce a pressor substance. Whatever the method of its production, hypertension should be regarded as of equal if not greater importance than renal insufficiency as a possible fatal complication of chronic diffuse glomerular nephritis.

COMMENT

No doubt the same forces at play which cause chronic Bright's disease cause hypertension. I have noted that many mild renal disturbances are accompanied by slight rise in diastolic pressure with a normal systolic pressure. I agree with the authors that a high protein diet is not a cause of hypertension. In fact a high protein diet is probably one of the best preventive measures we have against nephritis and arterial hypertension. In my opinion, one of the most important factors in prevention of chronic Bright's disease is to see that every infection is properly cleared up.

M. W. T.



Anesthetics in Thoracic Surgery

P. N. CORYLLOS and S. BASS (*New York State Journal of Medicine*, 39:525, March 15, 1939) present a study of the anesthetics used in 1,370 operations on the thorax at Sea View Hospital, Staten Island, New York. In these cases, the anesthetic used was cyclopropane in 300 cases, gas-oxygen in 212, avertin in 226, evipal in 605, regional and local in 27 cases. In this series the greatest mortality followed avertin anesthesia (8.4 per cent); evipal anesthesia showed the lowest mortality (6.4 per cent); the

mortality following cyclopropane, nitrous oxide and local and paravertebral anesthesia differed only slightly, being about 7.3 per cent with these types of anesthesia. Postoperative respiratory complications occurred after 3.7 per cent of the operations with cyclopropane, after 5.2 per cent of operations with nitrous oxide, 6.6 per cent with avertin, 2.3 per cent with evipal; none of the group operated under local and paravertebral anesthesia developed respiratory complications. Almost all the patients operated upon had chronic pulmonary tuberculosis; of these 70 per cent had bilateral disease. Convulsions and muscular twitchings occurred as complications of cyclopropane anesthesia in 8 cases; in 100 non-thoracic cases operated under cyclopropane this complication was not observed. Evipal caused a drop in systolic blood pressure averaging 40 mm. mercury and a rise in pulse rate;

postoperative shock occurred in a much smaller percentage of cases with evipal than with any other of the anesthetics used. Local and paravertebral anesthesia was used only for patients judged to be poor risks for any form of general anesthesia; this series of cases is too small for definite conclusions to be drawn as to its advantages for thoracic surgery.

COMMENT

In considering anesthesia today one is impressed with the number and variety of anesthetic agents, and the multiplicity of methods of administration. The use of these agents calls for greater competence on the part of the anesthetist. There is a growing tendency to turn over to the doctor thoroughly trained in the knowledge and use of these agents the entire responsibility for selection and administration of the anesthetic, having previously given him the opportunity of examining the patient and studying his records.

Here we have the experience of a thoracic surgeon, set forth in the study of 1370 cases. He admits that he is not yet sure which anesthetic is preferable although he prefers for the time being evipal. In recent years cyclopropane has been generally regarded as the anesthetic of choice, because of the higher percentage of oxygen permissible when it is used. It seems specially indicated in cases of this type, complicated as they frequently are by low vital capacity. The widest choice of available anesthetics is highly desirable, but in turn requires wise selection to suit the needs of the individual case.

T. M. B.

Employment of Suction in the Treatment of Acute Intestinal Obstruction

O. H. WANGENSTEEN and his associates at the University of Minnesota Medical School (*Surgery, Gynecology and Obstetrics*, 68:851, May, 1939) report the results of suction treatment with an indwelling duodenal tube in mechanical obstruction of the small intestine. This method was first described by Wangenstein in 1933, and has been employed for seven years in selected cases by the Department of Surgery of the University. This method is indicated in non-strangulating obstruction of the small intestine; only those cases of colonic obstruction in which distention is not great are suitable for the use of this "decom-

pression" therapy, which may make it possible to avoid an initial colostomy. The tube is first introduced into the stomach and suction applied until it is "reasonably certain" that the stomach has been evacuated. The suction is then temporarily discontinued; the patient is requested to drink a glass of water and is placed in lateral decubitus with the right side down. The duodenal tube is then advanced about an inch every five minutes; after about thirty minutes suction is resumed, and bile is usually aspirated. At this time a fluoroscopic examination is made or a film taken to check the position of the tube. In the presence of marked distention, it may be impossible to introduce the tube beyond the pyloric sphincter. In carrying out the suction treatment, it is important to make roentgenographic "scout" films of the abdomen at least every twelve hours, sometimes more frequently. The administration of saline solution to prevent dehydration is also important. Among 156 patients treated for acute mechanical obstruction of the small intestine at the University Department of Surgery, there were 190 cases, owing to the recurrence of obstruction in some patients; there were 28 deaths in the entire group, a patient mortality of 17.9 per cent and a case mortality of 14.7 per cent. In the group in which suction was the primary treatment, there were 96 patients and 126 cases of obstruction with 15 deaths, a patient mortality of 15.6 per cent and a case mortality of 11.9 per cent. In some of these cases, operation became necessary to effect "a satisfactory decompression"; but there were 64 patients and 83 cases treated by the suction method alone for relief of the acute obstruction; 5 deaths occurred in this group, a patient mortality of 7.8 per cent and a case mortality of 6 per cent. The authors conclude that suction with the indwelling duodenal tube has a definite value in the treatment of acute mechanical obstruction of the intestine. In some cases it may relieve the obstruction without the use of other methods; in a larger group it is of value as "an ancillary procedure" subordinate to surgical procedures.

COMMENT

Acute intestinal obstruction, always a formidable and pressing problem, is being

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treated with greater confidence by the modern surgeon. Advanced knowledge based on experience in clinical work and experimental research has suggested more rational therapy.

Suction with the indwelling duodenal tube, referred to in this article, has proven its worth and in many cases becomes life saving. It should be resorted to early. It forestalls the exhaustion incident to repeated vomiting and relieves distention. It is particularly valuable in postoperative mechanical intestinal obstruction. In conjunction with the administration of fluids and blood and the replenishment of depleted mineral bases it will be sufficient in many cases without recourse to further surgery. It is not fool proof. It is the man, the mind, the understanding behind the method that counts.

T. M. B.

Effect on Wound Healing of Bactericidal Ultraviolet Radiation from a Special Unit

D. HART and P. W. SANGER (*Archives of Surgery*, 38:797, May, 1939) report the use of a special ultraviolet ray unit, consisting of eight tubes, used for the sterilization of the air of the operating room. The center of each of the tubes is about 5 feet distant from the incision. Over 80 per cent of the output of this unit is at 2,537 angstrom units, therefore of high bactericidal value and low output in the erythemic range. In experiments on animals it was found that wounds exposed for ten to ninety minutes to this bactericidal radiation healed as well as control wounds, "if not better"; exposure of the peritoneum to this radiation for thirty to ninety minutes caused no damage. This ultraviolet radiation unit has now been employed in the operating room for operations on over 1000 patients without demonstrable harm to the skin, peritoneum, meninges or other tissues exposed during operation. Healing was found to be better with this method of operating room irradiation, with less danger of infection and less local and systematic reaction. The eyes of the patient are protected during operation, and the eyes and skin of the operating room personnel are also protected. But if this involves "slight inconvenience," it is overbalanced by the greater security given the patient, especially in extensive operative procedures at the times of the year and in those operating rooms in which there "are a

considerable number of pathogenic bacteria in the air." It has been found that the radiation from this special unit as employed "renders the air in the operative region almost free of viable organisms."

COMMENT

Postoperative wound infection cannot be entirely eliminated in the practice of clean surgery. The frequency of its occurrence is to a great extent up to the individual surgeon. Any improvement in surgical procedure which has for its purpose a lessened contamination of operative wounds by bacteria from the air of the operating room or the skin of the patient should result in a decrease in the incidence of postoperative wound infection. The favorable results obtained in more than 1000 operative cases, by the novel method herein described, is both promising and stimulating. It must be remembered, however, that many other factors contribute to failure to secure primary healing. All require careful consideration. Meticulous attention to detail and constant vigilance will contribute to success in securing primary wound healing.

T. M. B.

A New Aseptic Double-Valved Tubogastrostomy

J. A. GLASSMAN (*Surgery, Gynecology and Obstetrics*, 68:789, Apr, 1939) describes a new and simple method of gastrostomy. This operation is indicated in benign or malignant obstruction of the esophagus—conditions which result in weakness and emaciation by the time that operation is advised and accepted. Such patients, usually past middle age, cannot tolerate a prolonged abdominal operation. Most of the methods of gastrostomy now in use require an hour or more, but by the author's method, operating time is reduced to twenty or thirty minutes. When the stomach is exposed, the anterior wall is grasped with an Allis forceps at the most mobile point; with traction at this point a portion of the anterior wall is "converted into a cone-shaped diverticulum." With a purse-string suture of braided silk, the seromuscular layer at the base of the diverticulum is puckered, until the lumen at the base is almost, but not completely, closed. A second suture is then placed in the same way about one-quarter inch proximal to the first. The

ends of these sutures are used for traction when the Allis forceps is removed. A third purse-string suture is then introduced around the diverticulum "mid-way between the apex and the base" to form a second valve. These valves are reinforced by Lembert stitches of braided silk in the seromuscular layer at right angles to the purse-string suture. The assistant still maintains traction upward on the diverticulum. The stomach wall is fixed to the peritoneum and to the posterior rectus sheath at points above, below, and lateral to the base of the tubal projection. Interrupted seromuscular sutures are used, "embedded repeatedly" in the seromuscular layer before tying. The "tube" itself is attached to the anterior rectus sheath and subcutaneous tissue. An opening into the apex of the tube is made at any time from the first to the seventh day after completing the operation, employing the cautery. If possible the opening is delayed until near the seventh day—depending on the patient's ability to swallow fluids—as this allows adhesions to form. With this method the stomach is not opened "in the presence of peritoneal exposure."

COMMENT

This description of a new and simple method of gastrostomy is worth while. The Janeway and its modifications, involving the elaboration of a plastic procedure wherein a flap of stomach wall actually forms the new tube through which the patient is fed, require unusual nicety in technic.

The simpler methods of Witzel, Senn, Stam and Kader are not always successful.

This method seems to meet all requirements, and on the other hand is readily accomplished.

T. M. B.

The Value of Pitressin in Abdominal Surgery

P. C. POTTER and R. S. MUELLER (*American Journal of Surgery*, 43:710, March, 1939) report the routine use of pitressin in abdominal surgery from 1932 to the date of the report in the First Surgical Division of Bellevue Hospital. The single dose for adult patients is 20 units; with general or local anesthesia the first dose is given as the patient is placed on the operating table;

with spinal anesthesia when the operation is completed. After operation, pitressin is given every four hours for ten or twelve doses in uncomplicated cases. Where there is any degree of peritonitis, or if pneumonia develops, and in ventral hernia cases, a two-hour schedule is used. Pitressin should be given by intramuscular injection into a taut muscle, in order to avoid the entrance of the drug into the vein. With this precaution a shock reaction does not occur. Pitressin is of definite value in the prevention and treatment of abdominal distention. Since it has been used routinely, the number of postoperative colonic irrigations has been definitely reduced. In the presence of a non-distended intestine, the authors have not observed any greatly increased peristalsis; gas pains rarely occur, and "the picture has been that of an unusually quiet abdomen." In the distended intestine, pituitrin causes a "violent reaction" with the expulsion of colonic contents. But this is in the nature of "a rapid, sustained contraction rather than of violent and prolonged peristalsis." In the authors' experience pitressin has proved its value in diffuse peritonitis—"in this type of case above all others."

COMMENT

Personal experience in the use of pitressin as suggested by Potter and Mueller, in the article herein abstracted, has been entirely satisfactory. Early convalescence has been more comfortable and less complicated.

T. M. B.



Recurrent Renal and Ureteral Calculi

H. M. SPENCE and S. P. BAIRD (*American Journal of Surgery*, 44:348, May, 1939) report 164 cases of renal and ureteral calculi found in the examination

of approximately 40,000 patients admitted to the Dallas (Tex.) Medical and Surgical Clinic or 1 case in every 232 admissions. In 47, or 28.6 per cent of these cases, there was evidence of recurrence, in that the patient gave a history of spontaneous passage of, or operation for one or more stones prior to examination at the Clinic. It is obvious that in some of these cases the stones found at the Clinic and "the previous stones" may have formed simultaneously, and there may not have been a true recurrence; however, this is impossible to determine on the basis of the clinical data available. Of the 164 cases, 113 or 69 per cent showed pus in the urine. Fifty-six of these cases were operated on, with sixty-four major procedures, including nephrectomy in 16 cases. Thirty-seven cases were not treated at the Clinic; they either refused the treatment advised, deferred action, or were referred to their local physicians. In the prevention of recurrence, the first requisite is the complete removal of existing stones. In operative cases, roentgenography at the operating table is employed to demonstrate whether any stones are left, and to facilitate the removal of any that may be found. Another operative measure that has proved of value is nephrostomy drainage. A third operative measure that is important is freeing of the ureteropelvic junction from obstruction; the kidney may be placed and held in high position with proper angulation of the ureter by a Deming nephropexy. After removal of the stone, a ten-day course of mandelic acid therapy is begun; this is repeated as necessary to clear up the urine; methenamine and sodium acid phosphate or enteric coated tablets of ammonium chloride in doses of 60 gr. daily are given between courses of mandelic acid. If response is unsatisfactory, sulfanilamide in doses of 40 gr. daily is employed. In some cases cystoscopy and pelvic lavage are necessary to render the urine clear. In regulation of the diet, the aim is to modify the intake of certain types of food and "to adjust the acidity and dilution of the urine to where no crystals precipitate from the urine at any time." Foods high in calcium (milk and milk products and eggs) and those rich in oxalates (tomatoes, spinach and

beans) are avoided. As a rule with the regulation of the diet, high fluid intake, and the control of the urinary infection, the urine is free from crystals at a pH of 4.5 to 5.5; if necessary enteric coated tablets of ammonium chloride are given for a time, in gradually reducing dosage, to maintain this acidity. The fluid intake is maintained largely by the ingestion of plenty of water; fruit juices are allowed when they do not greatly alter the pH of the urine; alcohol, coffee and tea are allowed in moderation when no infection is present. A vitamin A concentrate is given in capsules containing 8,500 units per capsule, at first two capsules and later one capsule daily. This regime for the prevention of recurrence of calculi has been in use at the Clinic since January 1, 1936. In this period 28 cases have been treated, and 25 of these have been followed up. Of these 20 are well and free from stone, although 7 show some pyuria; 3 are being treated conservatively; one refused operation and has died; one showed recurrence thirteen months after operation elsewhere.

COMMENT

Removal of stones is in a large sense an incidental relief. The essential relief is: 1—to cure the infection of the urine, because that is usually the chief cause of the formation of the stones, and, 2—to keep the infection cured because that is the chief cause of recurrence of the stones. Unfortunately, that kind of remote after-treatment is exactly what the laity will not seek, unless they are having subjective symptoms. The average layman does not grasp, and too many disbelieve in, objective symptoms in contrast with subjective symptoms. That fact is a loss to the people and a hindrance to medical progress.

V.C.P.

Polypeptidemia in Urologic Surgery

E. TRUC, P. MONNIER and A. NICOLAS (*Journal d'urologie*, 47:287, Apr., 1939) note that since P. Cristol described a method for the determination of the polypeptides of the serum, a number of French authors have discussed their significance in various medical and surgical conditions. Polypeptides are products of the breaking down of proteins inter-

mediate between the albumins and the amino-acids. Normally they are present in the blood serum in amounts of 10 to 20 mgm. per 1000 c.c. In various urological conditions requiring operation (renal tuberculosis, calculus, hydronephrosis, etc.) the authors found the serum polypeptides increased above the normal level; this increase was not parallel with the increase in blood urea, but it was closely related to the severity of the lesion and of the clinical symptoms. Following operation, the polypeptides were increased in the first few days; in 2 cases they were reduced below the original level one month after operation; in both these cases a nephrectomy was done. In the other cases, reduction of the polypeptides below the original level was not demonstrated after operation; in these cases the excess of serum polypeptides cannot be attributed to the renal lesion alone, but is due to other factors, chief of which are hepatic insufficiency and excess destruction of proteins.

COMMENT

The advances in the chemistry of body processes are more and more extended. Polypeptides are another example. The most significant fact about them in this study, however, is that at least three sources of them must be recognized: renal pathology, hepatic insufficiency and excessive breakdown of proteins. At that, the question is which one or two of these three dominate. As always such questions are difficult to answer and usually cannot be answered categorically.

V. C. P.

Transillumination of the Bladder

C. F. ENGELS (*Journal of Urology*, 41:690, May, 1939) describes a method of transillumination of the bladder that is original with him. This method was tried because he found that in the diagnosis of bladder tumors, especially malignant tumors involving the dome, only a small amount of the tumor is visible in the cystoscope; the tumor exposed at operation is found to be much larger and more infiltrating than the cystoscopic findings indicate. With the author's method of transillumination the bladder is filled with a clear fluid and a Cameron light is introduced through the suprapubic incision before opening the bladder. The light, when pushed against the sides

of the bladder after the latter has been exposed, will give the same "clear transmission of light" through the normal areas of the bladder wall as is obtained with a hydrocele. The tumor mass does not transmit light and it can be outlined with considerable accuracy before the bladder wall is incised, and the best site for the incision determined. In some cases, also, the extent of the infiltration shown may indicate that the tumor is inoperable.

COMMENT

This method solves two very important points: 1. Where to place the incision in order to clear the lesion, and 2. how much infiltration there is to give or banish hopes of a good primary result. Estimation of the size of a tumor by the cystoscope is on a field-to-field basis and very difficult. Estimation of the infiltration present may be made by watching the elasticity of the bladder wall during slow distention and evacuation. Unfortunately, this test is on a field-to-field basis also. Engel's method probably gives a comprehensive view of a large part of the bladder before opening it and is a great advantage.

V. C. P.

Vitamin C and Essential Hematuria

C. E. BURKLAND (*Journal of Urology*, 41:401, March, 1939) notes that experiments have shown that vitamin C definitely increases the capillary resistance and prevents the "mechanical weakness" of the capillary walls that causes hemorrhage. The author, therefore, determined to try the effect of vitamin C in cases of essential hematuria in which blood has been present in the urine for several weeks. He reports 4 such cases of hematuria in which renal function tests and complete urological examination, including pyelography, showed no lesion to account for the hematuria. In these cases vitamin C given intravenously as the sodium salt of cevitamic acid controlled the bleeding in two to three days; the dosage varied from 200 to 300 mgm. daily. In two of these cases a high vitamin C diet plus cevitamic acid tablets by mouth caused a definite diminution of the hematuria, but the intravenous administration was necessary to produce "a more rapid, dramatic response." All these patients were placed on a high vitamin C diet on discharge

from the hospital, and have been kept under observation for several months; none have shown any recurrence of the hematuria. In these cases there was no evidence of scurvy or gross vitamin C deficiency; one patient had had colitis and diarrhea for some time, indicating a possibly deficient absorption of vitamin C. In the author's opinion, the chief action of vitamin C in control of the hemorrhage was due to its ability to cause alteration in capillary permeability.

COMMENT

The one point lacking in this study is the presence or absence of bacteria in the urine to account for the bleeding. It is a safe presumption that as positive a symptom as hematuria must have a positive cause. The term "essential hematuria" is almost an admission that search for that cause has not been adequate. For example, what was the bacterial element in the colitis and diarrhea noted in one case? V.C.P.

Mandelic Acid Therapy: Action of Enteric Tablets of Mandelic Acid and Ammonium Chloride

E. RUPEL and R. C. TRAVIS (*Journal of Urology*, 41:622, April, 1939) note that the value of mandelic acid therapy in bacillary infections of the urinary tract is well established. They have found, however, that in some cases of urinary tract infection in which mandelic acid is definitely indicated, the liquid preparations available cause gastric irritation of such severity that their use was "objectionable or even impossible"; this was especially true in cases in which patients were already nauseated as a result of the urinary tract infection. As a need for some mandelic acid preparation that will not irritate the stomach was apparent, the authors have developed an "enteric coating" which has been proved by x-ray studies of patients given coated tablets of barium sulphate to disintegrate in the intestines in from six to eight hours. Tests of various mandelic acid salts indicated monoethanolamine mandelate was most suitable for administration in tablet form. After ingestion of this salt, mandelic acid was excreted in the urine to about the same extent as after the ingestion of ammonium mandelate in the

liquid (elixir) form; and the urine became acid. In making up the tablets ammonium chloride was added to the mandelate in order to increase the acidification of the urine, as that increases the inhibitory action of mandelic acid on bacteria; each tablet contains 0.325 gm. of monoethanolamine mandelate and 0.227 gm. ammonium chloride. The enteric coated tablets have been used in the treatment of 24 cases of urinary tract infection; in these cases the type of infection was an indication for the use of mandelic acid, but the patients did not tolerate the liquid mandelate; 5 of them repeatedly vomited the liquid, but tolerated the tablets well. It was found that some 3000 tablets, given in doses of 3 to 4 four times daily (after meals and at bedtime) give results that compare favorably with those obtained with the liquid preparations of mandelic acid.

COMMENT

When a drug of itself is not well borne, or when a given preparation of it is irritating, the essential indication is to change. In most cases fluid preparations are the choice because solution has been accomplished before ingestion and must not occur after it. That much is already done. When the action of a drug, such as mandelic acid, is not sufficient, an adjuvant is required and none is better than ammonium chloride. It is interesting to note that the tried and true drugs such as ammonium chloride are always resorted to.

V. C. P.



Factors Influencing the Mortality Rate of Premature Infants

T. M. LAMB (*Brooklyn Hospital Journal*, 1:69, April, 1939) presents a study of 120 premature infants delivered at the Brooklyn Hospital since the early part of January, 1936. The total mortality in this series was 8.33 per cent (10 deaths); 8 babies died within the

first twenty-four hours, leaving a mortality of only 2 deaths (1.79 per cent) in those that survived this period. Although 14 of these premature infants were born of mothers suffering from toxemia of pregnancy, only one of these babies died, so that this factor did not increase the mortality. The type of delivery was found to be a factor in the mortality of the premature infant; the most favorable type of delivery was found to be forceps control, preferably with episiotomy. The size of the infant is the most important single factor in determining the chance of survival of the premature infant; when the birth weight is under two pounds, "survival is not to be expected"; as the birth weight rises, the mortality rate "progressively declines." In comparing the findings in this series of 120 premature infants with those in a series of 314 premature infants delivered at the Hospital in 1926 to 1936, the author finds that the mortality rate has been much reduced—from 27.07 in the earlier series to 8.33 in the present series. This is due in part to the fact that there was a smaller percentage of infants under two pounds birth weight in the later series; also that there were fewer "damaged" babies owing to improved obstetrical methods. Another important factor is the better nursing and pediatric care. In the care of these infants, those under five pounds in weight and often those under five pounds and eight ounces were put into incubators immediately after birth with a relative humidity of 55 per cent or over, and a temperature regulated to keep the baby's temperature between 98.6 and 100.6° F. Handling of the infants was avoided as much as possible, and clyses, injections or transfusions were given only on special indications. Gavage was found to be the method of choice for feeding most infants weighing less than five pounds for the first few days. Lower caloric feedings than generally employed have been found advantageous; feedings of very small volume (1 or 2 drams) were used at first, given every three hours, and the volume increased very gradually.

COMMENT

The most logical way to attack the high infant mortality rate in any area is by the

preservation of life in the premature group. Personally, I feel any infant under 2500 grams or 5½ pounds should be classed as a premature and so treated. The reduction of the mortality rate in prematurity does not lie solely with the pediatrician nor with the obstetrician, but is attained through the combined efforts of both.

Dr. Lamb, at the Brooklyn Hospital, has shown the effects of such combined efforts by a reduction of the mortality rate from 27.07 to 8.33 per cent. Undoubtedly, this reduction is due mainly to the following factors: First, the avoidance of brain injuries through the agency of better obstetrical technique. Second, the preservation of normal body temperature with the aid of more modern incubators. Third, the utilization of breast milk.

The care of the premature infant during the first six months of life should be carefully supervised, remembering at all times that its reserve supply of stored elements is inferior to that of a normal infant. Hence, it is necessary that such elements be supplied. The elements most seriously needed, in addition to the usual foods, are iron and vitamins B, C, and D. It is my custom to use 50 milligrams of Vitamin C in the formula in addition to the regular orange juice. The vitamin D is best furnished in the form of one of the concentrates, giving between one and two thousand units during the first six months period. The vitamin B is given in dosages suggested in Litchfield's article as abstracted below. The iron is usually started by the end of the first month. O.L.S.

Effect of Yeast Extract on Growth and Development of Premature Infants

H. R. LITCHFIELD and his associates (*American Journal of Diseases of Children*, 57:546, March, 1939) report that of 2,579 infants born at two Brooklyn hospitals in 1936 to 1937, 78 were premature; of these 20 died. All the surviving 58 infants were given varying doses of yeast extract (vitamin B complex), "in addition to the standardized routine procedure for caring for premature infants." A liquid yeast extract containing the entire vitamin B complex was used; the extract most used had a potency of 100 international B₁ (B) units and 40 Sherman B₂ (G) units per teaspoonful (4 c.c.); an extract with about half this potency was used in the earlier cases in the series. Some infants were given a teaspoonful twice daily until there was an appreciable gain in weight, then the dosage was reduced to 15 drops

twice daily in orange juice. The gain in weight in this group of infants was compared with that in 52 premature infants cared for by the same routine in the same hospitals in the previous year (1935-1936), but not given yeast extract. It was found that the infants receiving yeast extract showed a gain in weight much sooner than those in the control group; thus 55 per cent of the former group began to gain weight in the first week of life, and only 8 per cent of the latter group showed any gain during the first week. Infants with birth weights under 1500 gm., who were given yeast extract, attained four to five times their birth weight at the age of three months, while those not given yeast extract only doubled or tripled their birth weight in this period. Of infants weighing over 1500 gm. at birth, more than twice as many of those given yeast extract tripled their birth weight in three months; and many quadrupled their weight; 3 of these infants who were given yeast extract gained five times their birth weight in three months. The yeast extract caused no gastro-intestinal disturbances.

Treatment of Rickets and Tetany with a Single Massive Dose of Vitamin D

H. VOLLMER (*Journal of Pediatrics*, 14:491, April, 1939) notes that the treatment of rickets and tetany with a single massive dose of Vitamin D has been reported by a number of authors. He reviews the literature of the subject and reports 6 cases recently treated by the administration of the vitamin D preparation "ertron" in milk; as the amount of powder necessary to give the full dosage of 600,000 units makes considerable bulk, this amount was divided into two parts and emulsified in two consecutive bottles of milk. The author has found that both rickets and tetany are cured by this large single dose of vitamin D (600,000 international units). The curative effect is more prompt than that obtained with daily administration of small doses. Tetanic convulsions do not recur after the administration of the vitamin D, and all other symptoms of hyperirritability disappear as a rule within two days. Serum calcium and phosphorus become normal and roentgenographic examination shows definite evidence of

calcification within a week. The rapid rise of serum calcium is "the most impressive effect" of this form of vitamin D therapy. On the basis of his own observations and those of others, the author concludes that this form of treatment (vitamin D shock therapy) is indicated in: neonatal and infantile tetany, severe rickets, and rickets associated with pneumonia and pertussis or with chronic infections; also when the parents are indifferent to carrying out the usual method of daily administration of vitamin D. The author prefers to give Vitamin D by mouth, in milk, but it is also effective when administered subcutaneously. No signs of toxicity have been observed in the cases treated by this method.

Vitamin-Resistant Rickets

A. M. GILL (*Archives of Disease in Childhood*, 14:50, March, 1939) reports 4 cases showing typical clinical symptoms and roentgenological signs of rickets, in which there was no evidence of malnutrition or lack of sunshine; and also no signs of celiac disease or severe renal disease. The values for blood calcium and phosphorus were normal in all these patients, but the blood phosphatase was high, as is characteristic of active rickets. Administration of vitamin D in the usual dosage, or even in increased dosage, caused no improvement in the symptoms and no signs of healing, as shown roentgenologically; treatment with ultraviolet light was also ineffective. In such cases healing occurs spontaneously when growth ceases. In contrast, the author reports 2 other cases, who clinically and radiologically appeared to be suffering from the same type of rickets, yet who responded promptly to treatment with vitamin D and calcium. In cases of the vitamin-resistant type, the author suggests that "the fault may be a failure of utilization at the site of bone growth."

Virus Pneumonia of Infants Secondary to Epidemic Infections

E. W. GOODPASTURE and his associates (*American Journal of Diseases of Children*, 57:997, May, 1939) report 5 cases of respiratory tract infection with the clinical symptoms of pneumonia

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Edited by Alfred E. Shipley, M.D., Dr. P.H.

New Work on Hand Infections

SURGICAL TREATMENT OF HAND AND FOREARM INFECTIONS. By A. C. J. Brickel, M.D., St. Louis, The C. V. Mosby Company, [c. 1939]. 300 pages, illustrated. 4to. Cloth, \$7.50.

This book is a splendid monograph with nearly 200 illustrations. Ten of these illustrations are in color. The anatomical drawings and the colored plates are so beautifully executed as to deserve the highest praise for Miss Helen Williams who drew them. The book is divided roughly into anatomical considerations, experimental injections into the potential spaces of the hand and finally a section splendidly illustrated by photographs of the clinical and therapeutic aspects.

The author acknowledges his obligations to the excellent monograph by Kanavel. It may be said that he has gone beyond the master in many ways. One may study the illustrations and grasp the text without reading a word. The author has followed Kanavel in the attempt to inject the spaces in the hand. This method of approach has always seemed to be an unnatural procedure and one which would lead to false conclusions. However, the author has followed Kanavel in this, and if the master was wrong, then the student is equally wrong.

The text as a whole is the last word on "Infections of the Hand" and deserves a high ranking position as a surgical text for the specialist and the practitioner.

ROBERT F. BARBER.

An Encyclopedia on Therapy

WHITLA'S DICTIONARY OF TREATMENT. Including Medical and Surgical Therapeutics. Eighth edition by R. S. Allison, M.D. and C. A. Calvert, M.B. Baltimore, William Wood & Company, [c. 1939]. 1285 pages. 8vo. Cloth, \$9.00.

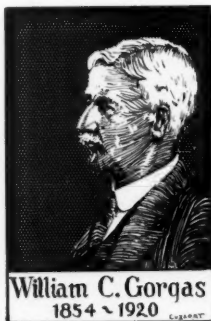
This edition like its predecessors has been been written by members of the Belfast school; the original author, Sir William Whitla died in 1933. It covers the large field of medicine, surgery and the specialties, furnishing much information in a large but not bulky volume.

There is a tendency common in many British books, to put too many ingredients into prescriptions, making unpalatable mixtures of rather doubtful value according to recent American ideas. However, the work is encyclopedic in scope, has been brought up to date in most particulars, and should well fulfill its purpose.

WILLIAM E. MCCOLLUM.

DIE THERAPIE AN DEN BERLINER UNIVERSITÄTS-KLINIKEN. Herausgegeben von Professor Dr. Heinz Kalk. 11th Auflage. Berlin & Wien, Urban & Schwarzenberg, [c. 1937]. 661 pages. 12mo. Cloth, R.M. 10.50.

MEDICAL TIMES, JULY, 1939



Classical Quotations

• I am very happy to have served in the more humble role of being the first to put your discovery to extensive practical application.

William Crawford Gorgas.

Letter to Walter Reed.

YOU may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the **MEDICAL TIMES**, 95 Nassau Street, New York, N. Y.

The fact that this is the 11th edition is evidence of the favorable reception which this book has received. The work covers all the branches of medicine in a volume of 616 pages. There is a new chapter on hydrotherapy, and those on the occupational diseases and gas poisoning have been revised. The recent, as well as the tried therapeutic measures in the various branches of medical practice as internal medicine (Siebeck, v. Bergmann, Kalk), pediatrics (Bessau), surgery (Magnus, Sauerbruch), orthopedics (v. Danckelman), gynecology (Stoeckel), obstetrics (Wagner), neurology (Bonhoeffer), psychiatry (Bonhoeffer), ear and throat (v. Eicken), eyes (Löhlein), dermatology and venereology (Frieboes), hydrotherapy (Jansen) are reported by their directors named in the brackets or by members of their staff. As a matter of fact, the single subjects arranged in catchword order are very concise. Some therapeutic methods are mentioned very briefly, i.e., the injection treatment of hemorrhoids, it is stated, is not used at all. The question whether it is justified to publish such a compendium of therapy must be answered in the affirmative as far as this book is concerned.

MAX G. BERLINER.

The Discoverer of the Parathyroid Glands

ON A NEW GLAND IN MAN AND SEVERAL MAMMALS. (Glandulae Parathyroideae). By Ivar Sandström. Baltimore, Johns Hopkins Press, [c. 1938]. 44 pages, illustrated. 4to. Paper, \$1.00.

This is a brochure of 44 pages, consisting of an introduction by the translator, a biographical sketch of Ivar V.

Sandström (1852-1889) by Prof. J. August Hammer, and Sandström's account of his discovery of the Parathyroid Glands. There is a good bibliography. Some very good plates show the macroscopic and microscopic morphology of the glands. Aside from its great historic value, the book is a tribute to the skill and ability of the author, (who was the victim of an inherited mental disorder which finally caused his death), especially as the work was accomplished fifty years ago, when scientific investigators lacked in many particulars the advantages of our modern methods of technical precision. This little book holds a strong appeal for those of us who are interested in the history of scientific medical progress.

JOSHUA M. VAN COTT.

A Third Edition of Pelouze

GONORRHEA IN THE MALE AND FEMALE. A Book for Practitioners. By P. S. Pelouze, M.D. Third edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 489 pages, illustrated. 8vo. Cloth, \$6.00.

This excellent work of nearly five hundred pages is the third edition completely revised and brought strictly up to date. The text is clear, concise, very comprehensive, well illustrated, and represents a fine contribution from an outstanding authority on venereal diseases. While it is intended for the practitioner, urologists and specialists in other fields will find the book to be valuable and useful.

The author has wisely included several chapters, in the third part, devoted to a consideration of "social hygiene" factors as related to the physician. There is no doubt that the disease is properly and progressively reaching a position of prominence as a public health problem.

AUGUSTUS HARRIS.

A Fracture Handbook

A MANUAL OF FRACTURES AND DISLOCATIONS. By Barbara B. Stimson, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 214 pages, illustrated. 12mo. Cloth, \$2.75.

This small manual containing 200 pages of text and 95 black and white line drawings gives a good picture of the diagnosis and treatment of fractures and dislocations as taught by the Fracture Service of the Presbyterian

Hospital. The guiding influence of Dr. Wm. Darrach and Dr. Clay Ray Murray is evidenced throughout the volume.

The body is divided into four parts. The first part is devoted to general considerations such as: definitions, classifications, bone repair and fundamental principles underlying the treatment of fractures. Various types of splints, suspension apparatus, etc., are considered in this part. The second part is devoted to the upper extremities including the shoulder girdle. The third part is devoted to the trunk. The fourth part to the lower extremities.

In all there are 21 chapters and each chapter that deals with specific bones and specific fractures discusses the fracture as it relates to occurrence, displacement, diagnosis, pathology, time of immobility, prognosis and summary. All of these are discussed briefly. Fractures of the shaft of the humerus for instance has one-half page of black and white drawings and approximately three pages of text, and although this is a brief discussion of the fracture it is well worded and to the point.

This volume should be an asset in the teaching of fractures and also for the desk of the general surgeon who treats fractures.

HERBERT T. WIKLE.

Getting the Most Out of Sleep

YOU CAN SLEEP WELL. The A B C's of Restful Sleep for the Average Person. By Edmund Jacobson, M. D. New York, Whittlesey House, [c. 1938]. 269 pages, illustrated. 8vo. Cloth, \$2.00.

The author's method of progressive relaxation is herein exploited for the general public in good best-seller fashion. The early chapters include almost every difficulty humankind complains of as having etiologic relationship with insomnia in that there is "failure to relax." Other chapters elaborately present the solution of these difficulties without recourse to various specialists by practicing Dr. Jacobson's system until it becomes habitual. Other factors than tension are not regarded, underlying psychologic features are ignored, and sleep disturbances without tension are not considered. The book is obviously biased, one-sided, and prepared for public sale. The medical reader will not enjoy the author's treatment of his profession,

but not for that reason alone does it lack approbation. IRVING M. DERBY.

Looks and Charm

BEAUTY PLUS—THE SMART WOMAN'S KEY TO BEAUTY, HEALTH AND CHARM. By Mary MacFadyen, M.D. New York, Emerson Books, Inc., [c. 1938]. 272 pages, illustrated. 8vo. Cloth, \$1.96.

Beauty Plus is written in a manner which should be pleasing to the young who are particularly interested in their appearance. The subjects treated are those with which the individual who considers her defects, has to contend. They are presented in simple, understandable terms. The prescriptions outlined lead to self diagnosis and self medication, both of which may result in farther trouble rather than being of benefit. There are a certain number of individuals who have idiosyncrasies toward some drugs. For this reason, and the false sense of security it would give to those who are prone to treat themselves, and who would no doubt delay seeking medical aid till the situation has become greatly aggravated, the presentation of medical formulae in such a book should be severely criticized.

G. MARJORIE WILLIAMS.

Survey of Literature on Circulatory System

THE CONTROL OF THE CIRCULATION OF THE BLOOD. By R. J. S. McDowall, M.D. New York, Longmans, Green and Co., [c. 1938]. 619 pages, illustrated. 4to. Cloth, \$22.50.

This historic and current review of the literature on the control of the circulation represents a most comprehensive and painstaking piece of work. Unfortunately the material included is not well digested and, at times, is poorly organized with a definite lack of unity. It is rather an expensive work unless one is specifically interested in this particular field.

GEORGE B. RAY.

For the Allergic Patient

YOU CAN'T EAT THAT! A Manual and Recipe Book for Those Who Suffer Either Acutely or Mildly (and Perhaps Unconsciously) from Food Allergy. By Helen Morgan. New York, Harcourt, Brace and Company, [c. 1939]. 330 pages. 8vo. Cloth, \$2.50.

This book, though written by a lay person, for the lay public, may be read with interest and profit by any physician. A foreword by Dr. Walter C. Alvarez contains much sound advice about diet.

Then follows a short history of allergy which reads almost like a book of adventure without deviating from the real facts. The allergic approach, including history taking, skin testing and elimination diets, follows. The bulk of the book, some 200 pages, contains recipes for allergies giving substitutes for such common articles as milk, eggs, wheat, etc. Some of these substitutes are soy beans, rice, fruit pulp and grated vegetables which are used to replace wheat flour. The last 50 pages entitled "What's In It" give the constituents of most of our foods including canned goods and proprietary foods. The authorities quoted through the book are standard medical authorities. We enjoyed the book very much. **GEORGE A. MERRILL.**

Medical History for the Layman

LANDMARKS IN MEDICINE. Laity Lectures of the New York Academy of Medicine. Introduced by James A. Miller, M.D. New York, D. Appleton-Century Company, [c. 1939]. 347 pages, illustrated. 12mo. Cloth, \$2.00.

This book is a collection of the third series of lectures given at the New York Academy of Medicine during the season of 1937-38 by a group of outstanding medical scientists. This course of lectures is offered to the laity in order to acquaint them with the progressive development of medicine with its historical background.

Dr. Francis R. Packard gives a detailed account of the evolution of the scientific modern surgery from its precursor-barber-surgery.

Dr. Alfred E. Cohn discusses the nature of medical research and its purposes.

Dr. Harrison Stanford Martland outlines the function of the medical examiner in the detection of crime, and furnishes the advantages of medical examiner's system over the obsolete coroner's system.

Dr. James J. Walsh emphasizes the great progress in medicine, arts and sciences, that were achieved in the thirteenth century.

Dr. Raymond Pearl's valuable contribution on the *Search of Longevity* stresses the axiomatic rule as expressed in his own words, "the more rapid the pace of living, the shorter the time that life endures."

Dr. Reginald Burbank furnishes a

concise and instructive essay on *Medicine and the Progress of Civilization*.

Dr. Lewis Gregory Cole presents the historical development of the science of x-ray in the United States from its earliest infancy up to date.

This book furnishes excellent reading material for the lay man as well as for the practitioner. **WM. RACHLIN.**

Medical Advice for the Middle Aged

HEALTH AT FIFTY. Edited by William H. Robey. Cambridge, Harvard University Press, [c. 1939]. 299 pages. 8vo. Cloth, \$3.00.

This volume contains a series of talks to the laity on subjects relating to health. Well written, carefully prepared, accurate and in language understood by the lay man or woman, these lectures are instructive. Heart disease, blood pressure, abnormal weight, nutrition, malignancy, nervous and mental stress are discussed. This book summarizes the information given by physicians to patients. **HENRY M. MOSES.**

Mental Examination Methods

OUTLINE OF PSYCHIATRIC CASE-STUDY. A Practical Handbook. By Paul W. Preu, M.D. New York, Paul B. Hoeber, Inc., [c. 1939]. 140 pages. 12mo. Cloth, \$1.85.

Professor Preu offers us a comprehensive booklet which should be very helpful to psychiatric workers in getting anamneses and as an aid in the mental examination of psychiatric patients. The book is an exhaustive questionnaire. We hope that by the time the examiner has obtained answers to all possible questions which may or may not have a definite bearing upon the case in question, he will have a clearer grasp of what ails the patient than before the investigation began. For the text is designed to meet all sorts of conditions, and hence cannot have the same value for each case, the case the doctor is at present interested in. The book covers the whole range of the mental (and physical) life of the patient. Our advice would be: Read the book carefully a few times, get out of it as much as possible and in examinations be guided by those criteria which were useful in the past. Do not exhaust your information. **JOSEPH SMITH.**

Abdominal Diseases

CHRONIC DISEASES OF THE ABDOMEN.
A Diagnostic System. By C. Jennings Marshall, M.D. Boston, Little, Brown and Company, [c. 1939]. 247 pages, illustrated. 8vo. Cloth, \$6.00.

Many chronic diseases of the abdomen are of necessity confusing because of our inability to visualize and palpate them. Any work that would co-ordinate and clarify our knowledge in this field would be welcomed by the general practitioner.

Dr. Marshall has succeeded in writing just such a book. In one volume of some 250 pages, all the chronic diseases of the abdominal cavity are discussed in masterful style, and the differential diagnosis stressed in a most helpful manner. It is the impression of the reviewer, that this volume deserves a place on the desk of every general practitioner.

GEORGE WEBB.

Another Novel About the Doctor

TAKE THESE HANDS. By Anne Paterson. Philadelphia, Macrae-Smith Company, [c. 1939]. 402 pages. 8vo. Cloth, \$2.50.

The doctor as a character in literature has always been popular with the reading public. In this novel, the author has a keen knowledge of the medical and nursing side of life in the hospital. Her descriptions of the operating room activities are well written.

John Leyton, a young graduate in medicine, brought up and educated in Maine, becomes an assistant to Doctor Michael Strong, "the Chief" in surgery in one of the larger teaching institutions. Doctor John idolizes his chief and soon becomes very efficient. He finds, however, that "the Chief" has a weakness—women. This shatters his belief and after an altercation runs away from his professional life to seclude himself in a seaport town in Maine. Here, with conflicting emotions, he passes his time in solitude.

It is only through the understanding of Lynn that he is finally persuaded to return to his professional position and after the death of "the Chief", takes up his life work again. These are the most fascinating chapters in the novel. Other characters are the well beloved country doctor with his usual integrity and common sense and also Sandra, a society butterfly.

The one criticism we find is that "the Chief", always very active in his surgical work, is suffering from all signs pointing to a circulatory failure, which necessitates hypodermic medication after each operation. This is hardly consistent with the strenuous life he leads.

This is the author's first novel, and is now in its third printing. One may expect greater possibilities in her future work.

MAURICE J. DATTELBAUM.

A Psychiatric Study

ANALYSIS OF PARERGASIA. By Gladys C. Terry and Thomas A. C. Rennie, M.D. (Nervous and Mental Disease Monograph Series No. 64). New York, Nervous and Mental Disease Monographs, [c. 1938]. 202 pages, illustrated. 8vo. Paper, \$4.00.

The authors use the term parergasia instead of schizophrenia because they feel that it is a more plastic term. Seventy-seven patients presenting this type of reactions were studied in great detail at the Phipps Psychiatric Clinic according to the psychobiologic concepts developed by Dr. Adolf Meyer.

Instead of the nosological nomenclature suggested by Kraepelin the authors offer six clinical patterns of dynamic reactions: 1: aggressive, 2: conversion, 3: passivity, 4: affective, 5: deliroid, 6: defeatist.

Illustrative case studies of each group is presented with great minutiae in order to obtain a more intimate picture of the personalities and constitutions of these individuals. The life history of the patients was analyzed to more clearly define the parergastic personality and point out the dynamics in this type of reaction.

While some of the conclusions of the authors are already well known, others will occasion a great deal of surprise. For instance 94.8% of their patients showed some hereditary tainting through one or more generations, a finding which is much higher than in previous studies.

The material and conclusions which the authors present will be found to be of decided value to all workers in this field. Their attempt to get away from hard and fast nosological boundaries in psychiatry is commendable and quite in keeping with the present day trends in psychiatry.

JOSEPH L. ABRAMSON.

Three German Works on the Albumins

DIE EIWEISSKÖRPER DES BLUTPLASMAS. By Dr. H. Bennhold, Dr. E. Kylin and Dr. St. Rusznyák. Dresden, Theodor Steinkopff. [c. 1938]. 470 pages, illustrated. 8vo. Paper, RM 38.00.

This volume is a compilation of the present knowledge pertaining to the albumin of the blood. Each chapter is written by different authors who have been drafted not only from Germany but Hungary and the Scandinavian countries as well. The book can be divided into two main parts, one dealing with the general chemical, physical and physiological properties of albumin, the second with the clinical implication of blood albumins.

The first part covers the physico-chemical, physiological properties as well as discussion of the origin of the albumins. The methods of estimation are well covered in an excellent chapter. A chapter is devoted to reversible as well as irreversible precipitation by various agents. The influence upon water migration is discussed in a chapter devoted to the colloid osmotic pressure. The part that albumin plays as a "carrier" of various substances present in blood serum closes the first part of the book.

The clinical part of this book presents the normal picture as well as the changes in various pathological conditions. Edema as well as albuminuria is well discussed. The serological reactions into which albumins enter are well presented. Special tests which have clinical interpretations, like the Takata-Ara test, are given a full chapter. The question of the part that albumin plays in clotting is given in the next chapter. Finally there is a summary from the point of view of the clinician.

This book is essentially a storehouse of information for the research worker, but is of value to the wide awake clinician. It suffers from the usual defect of books written by several authors in that there is overlapping and a certain lack of continuity.

CHEMIE UND PHYSIOLOGIE DES EISEISSES. By Dr. R. Otto, Dr. K. Felix and Dr. F. Laibach. Leipzig, Verlag von Theodor Steinkopff. [c. 1938]. 203 pages. 8vo. Paper, RM 6.75.

This book is the result of papers presented at a symposium held in Frank-

furt in October 1938 "on albumins", where the chemistry, the immunology and the metabolism in plants, and animals was discussed. This covered not only serum albumins but albumins in plants. The book suffers from nationalism prevalent but is excellent in spots, especially where some of the older workers have presented their material.

ALFRED E. SOBEL.

ÜBER DIE BEZIEHUNGEN DER QUALITÄT DES NAHRUNGSEIWEISSES ZUM AB-LAUF DES BETRIEBSSTOFFWECHSELS. By Adolf Bickel. Basel, Benno Schwabe & Co., [c. 1938]. 100 pages. 8vo. Paper, 10 Swiss francs.

This is a valuable brochure on the relation of the quality of nutritive albumin to end-metabolism. It is too intricate and technical to attract the average medical practitioner; but it should prove an asset to those who are interested in normal and pathological physiology.

JOSHUA M. VAN COTT.

More International Clinics

THE NEW INTERNATIONAL CLINICS. Original Contributions; Clinics; and Evaluated Reviews of Current Advances in the Medical Arts. Edited by George M. Piersol, M.D. Volume 1, New Series 2. Philadelphia, J. B. Lippincott Company, [c. 1939]. 312 pages, illustrated. 8vo. Cloth, \$3.00.

So widely scattered are the subjects covered that almost anyone will find something of interest in the latest number of this series. Garlock presents several cases of successful resection of the esophagus from carcinoma; Friedenwald presents a comprehensive review of gastro-intestinal hemorrhage, a topic of perennial interest. Others write on gastroscopy and peptic ulcer. There are several articles on diabetes and one on hypopituitarism. Ramon discusses mixed vaccination as performed by him in France. Laplace, Ashman and Sigler cover special aspects of heart disease.

One of the most important contributions in the whole volume is that by Cantarow on water balance, edema and dehydration.

ANDREW M. BABEY.

*These books may be purchased at
no extra cost direct from the Medi-
cal Times.*

BOOKS RECEIVED *for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.*

- THE ANAEROBIC BACTERIA AND THEIR ACTIVITIES IN NATURE AND DISEASE.** A Subject Bibliography in two volumes. By Elizabeth McCoy and L. S. McClung. Volume one—Chronological Author Index. Volume two—Subject Index. Berkeley, University of California Press, [c. 1939]. 4to. Cloth, \$10.00.
- BACTERIAL METABOLISM.** By Marjory Stephenson, Sc.D. Second edition. New York, Longmans, Green and Company, [c. 1939]. 391 pages, illustrated. 8vo. Cloth, \$7.50.
- IODINE AND THE INCIDENCE OF GOITER.** By J. F. McClendon. Minneapolis, University of Minnesota Press, [c. 1939]. 126 pages, illustrated. 4to. Cloth, \$5.00.
- THE POWER OF THE CHARLATAN.** By Grete de Francesco. Translated from the German by Miriam Beard. New Haven, Yale University Press, [c. 1939]. 288 pages, illustrated. 8vo. Cloth, \$3.75.
- MEDICINE AT THE CROSSROADS.** By Bertram M. Bernheim, M.D. New York, William Morrow & Company, [c. 1939]. 256 pages. 8vo. Cloth, \$2.50.
- PHYSIOLOGY OF THE UTERUS.** With Clinical Correlations. By Samuel R. M. Reynolds, M.A. New York, Paul B. Hoeber, Inc., [c. 1939]. 447 pages, illustrated. 8vo. Cloth, \$7.50.
- THE GENUINE WORKS OF HIPPOCRATES.** Translated from the Greek by Francis Adams, L.L.D. Baltimore, The Williams & Wilkins Company, [c. 1939]. 384 pages. 4to. Cloth, \$3.00.
- GASTROINTESTINAL DYSFUNCTION.** By Barton A. Rhinehart, A. B. Little Rock, Arkansas, Central Printing Company, [c. 1939]. 311 pages, illustrated. 8vo. Cloth, \$6.00.
- GUIDING HUMAN MISFEITS.** A Practical Application of Individual Psychology. By Alexandra Adler, M.D. New York, The Macmillan Company, [c. 1939]. 88 pages. 16mo. Cloth, \$1.75.
- STANDARD BODYPARTS ADJUSTMENT GUIDE.** Traumatic Injuries, Medical Fees, Evaluations. Chicago, Insurance Statistical Service of North America, [c. 1939]. Illustrated. 4to. Fabrikoid, \$8.00.
- CLINICAL PATHOLOGICAL GYNECOLOGY.** By J. Thornwell Witherspoon, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 400 pages, illustrated. 8vo. Cloth, \$6.50.
- THE PATIENT AS A PERSON.** A Study of the Social Aspects of Illness. By G. Canby Robinson, M.D. New York, The Commonwealth Fund, [c. 1939]. 423 pages. 8vo. Cloth, \$3.00.
- SHORT STATURE AND HEIGHT INCREASE.** By C. J. Gerling. New York, Harvest House, [c. 1939]. 159 pages, illustrated. 8vo. Cloth, \$3.00.
- YOUR CHEST SHOULD BE FLAT.** The Deep Chest Makes Better Soil for Tuberculosis. By S. A. Weisman, M.D. Philadelphia, J. B. Lippincott Company, [c. 1939]. 145 pages, illustrated. 8vo. Cloth, \$2.00.
- KEEP FIT AND LIKE IT.** By Dudley B. Reed, M.D. New York, Whittlesey House, [c. 1939]. (McGraw-Hill Book Co.) 325 pages. 8vo. Cloth, \$2.50.
- HEALTH OFFICERS' MANUAL.** General Information Regarding the Administrative and Technical Problems of the Health Officer. By J. C. Geiger, M.D. Philadelphia, W. B. Saunders Company, [c. 1939]. 148 pages, illustrated. 12mo. Cloth, \$1.50.
- MENSTRUAL DISORDERS.** Pathology, Diagnosis and Treatment. By C. Frederic Fluhmann, M.D. Philadelphia, W. B. Saunders Company, [c. 1939]. 329 pages, illustrated. 8vo. Cloth, \$5.00.
- MEDICAL JURISPRUDENCE AND TOXICOLOGY.** By William D. McNally, M.D. Philadelphia, W. B. Saunders Company, [c. 1939]. 386 pages, illustrated. 8vo. Cloth, \$3.75.
- A TEXTBOOK OF CLINICAL NEUROLOGY WITH AN INTRODUCTION TO THE HISTORY OF NEUROLOGY.** By Israel S. Wechsler, M.D. Fourth edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 844 pages, illustrated. 8vo. Cloth, \$7.00.
- ENDOCRINOLOGY IN MODERN PRACTICE.** By William Wolf, M.D. Second edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 1077 pages, illustrated. 8vo. Cloth, \$10.00.
- GARDINER'S HANDBOOK OF SKIN DISEASES.** Revised by John Kinnear, M.D. Fourth edition. Baltimore, The Williams & Wilkins Company, [c. 1939]. 239 pages, illustrated. 12mo. Cloth, \$3.50.
- LIFE AND LETTERS OF DR. WILLIAM BEAUMONT.** By Jesse S. Myer, M.D. St. Louis, The C. V. Mosby Company, [c. 1939]. 327 pages, illustrated. 8vo. Cloth, \$5.00.
- PYE'S SURGICAL HANDICRAFT.** A Manual of Surgical Manipulations, Minor Surgery, and other Matters Connected with the Work of House Surgeons and of Surgical Dressers. Edited by Hamilton Bailey, F.R.C.S. Eleventh edition. Baltimore, The Williams & Wilkins Company, [c. 1939]. 512 pages, illustrated. 8vo. Cloth, \$6.00.
- RELATION OF TRAUMA TO NEW GROWTHS.** Medico-Legal Aspects. By R. J. Behan, M.D. Baltimore, The Williams & Wilkins Company, [c. 1939]. 425 pages. 8vo. Cloth, \$5.00.



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CONTEMPORARY PROGRESS

—Concluded from page 341

in infants; two of the patients were two and a half years of age, the others younger, one being only two weeks old. In the latter case there was no history of a previous infection; in the other cases the respiratory tract infection followed measles in 3 cases and "clinical" whooping cough in one, but in this last case the *Haemophilus pertussis* could not be cultivated from the lungs, and the autopsy showed no lesions of whooping cough. In these cases, bacteriological examination of the lungs showed a mixed bacterial flora (the pneumococcus present in only one case), but the presence of a virus was indicated by the occurrence of nuclear inclusions in the epithelial cells

of the trachea and bronchi and their mucous glands, and in the alveolar epithelium. The virus apparently paved the way for bacterial infection of the lungs. The pathological changes in all these 5 cases were similar, characterized by epithelial necrosis, ulceration of the tracheal and bronchial mucosa, and interstitial pneumonia "contributing a peculiar architecture in the lesions." The virus appeared to be different from that of herpes simplex and from the agent of the so-called inclusion disease of infants. Inoculation of infected lung tissue into laboratory animals, including a *Macacus rhesus* monkey, "failed to establish the infection."



TUBERCULOSIS IN CHILDREN

Once a case of tuberculosis in a child is uncovered, the search for the source should begin. Breaking of the contact is really an essential part of the treatment. Every member of the household, and suspicious extra-familial contacts, should have roentgenograms taken. Of course fluoroscopy is more economical, but not as accurate. However, finances usually interfere with such an ideal program. If the source is found, the child is benefited, a new case is uncovered and treated, and the community benefits, for one more hazard is removed.

—Irving L. Appelbaum, M.D.,
in *J. Med. Soc. N. J.*, April, 1939.

X-RAY TREATMENT OF PUERPERAL MASTITIS

The successful results to be obtained by X-ray therapy when instituted in the early stage of puerperal mastitis are shown by K. WIRTH and M. PETERS (*Münchener medizinische Wochenschrift*, January 13, 1939, 86, 59). These authors first used the method ten years ago, but did not institute it as a regular procedure until the year 1936, since which date it has been systematically carried out in all suitable cases.

INTRACARDIAC INJECTION OF ATROPINE IN PROLONGED ANESTHETIC SYNCOPE

Reporting the successful use of simultaneous intracardiac injection of adrenalin and atropine in a case of prolonged primary cardio-respiratory anesthetic syncope, R. SOUPAULT (*Presse médicale*, March 1, 1939, 47, 424) recommends the more general use of intracardiac injections of atropine in cases of cardio-syncope and also in other anesthetic accidents.

ASSOCIATED PHYSICIANS OF LONG ISLAND

THE Spring outing of the Associated Physicians of Long Island was held in Nassau County June 1, with a scientific program in Nassau County Sanatorium and golf and dinner at Bethpage Golf Club.

The scientific program was arranged by Dr. A. S. Warinner, with the aid of Dr. C. A. Hettesheimer and the medical superintendent of the Sanatorium, Dr. J. C. Walsh. The following short papers were presented.

1. Surgical procedures in the Treatment of Pulmonary Tuberculosis.
By Dr. J. C. Walsh of Nassau County Sanatorium
Discussion by Drs. R. F. Harloe and C. E. Hamilton of Brooklyn
2. Calcinosis
By Dr. F. S. Child of Port Jefferson
Discussion by Dr. Arthur Goetsch of Brooklyn
3. Enterectomy in the Surgical Treatment of Hepatic Cirrhosis
By Dr. C. C. Murphy of Amityville
Discussion by Drs. George A. Merrill and Herbert T. Wilke of Brooklyn
4. Causalgie Backache
By Dr. O. C. Hudson of Hempstead
Discussion by Drs. Henry P. Lange and J. G. McNamara of Brooklyn

THE business meeting was called to order by the President, Dr. Jefferson Browder. Reports of the Scientific Committee by Dr. A. S. Warinner, Entertainment Committee by Dr. A. W. M. Marino, and Historical Committee by Dr. D. E. McKenna were read and accepted. After

discussion of the difficulty in preparing obituary notices and the value of archives containing data on members' careers, a motion to disband the Historical Committee failed to pass. Then a motion to appropriate \$200.00 for the use of the Historical Committee in obtaining biographical data about members was tabled.

The following candidates were unanimously elected to membership:

Dr. Charles M. Bastable, Brooklyn.
Dr. Arthur A. Clinco, Brooklyn.
Dr. John E. Cox, Forest Hills.
Dr. J. V. Hughes, Bay Shore.
Dr. Evans F. Sealand, Richmond Hill.
Dr. John N. Snell, Freeport.
Dr. Allison J. Vosseler, Brooklyn.

DR. Herbert Fett, chairman of a special prize committee, announced that a cash prize of \$50.00, to be known as the William Browning Prize, will be awarded annually to the member of the Associated Physicians of Long Island who submits before November 1 of the year the best original essay on a medical subject. Certificates will be awarded for the first, second and third best essays.

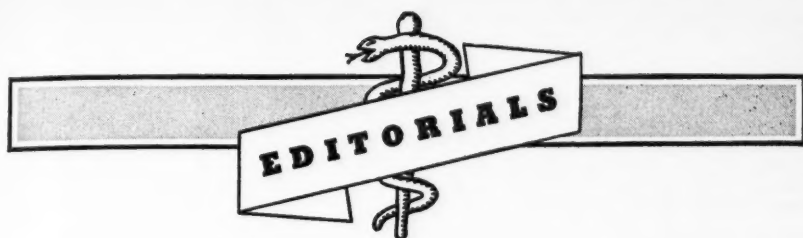
The members who played golf joined those who attended the scientific session in Bethpage Clubhouse for dinner. After dinner, Courtney Hall, Ph.D., professor of history at Adelphi College, described his research into the careers of old Long Island doctors of the 18th and 19th centuries. Mr. Frankenberger showed some ancient books and treatises from the Library of the Medical Society of the County of Kings which were written by or which described in some way the doctors to whom Dr. Hall referred.



SUGGESTS ADDING VITAMIN B₁ TO CANDY AND LIQUOR

Manufacturers of candy, white bread, refined cereals and sugar as well as alcoholic beverages should add thiamin chloride to their products as a health protective measure, Dr. Norman Jolliffe, New York University College of Medicine professor, suggested at a meeting of the New York Academy of Medicine.

—Science News Letter.



Wilde, Whitman Et Id Genus Omne

ART and science hunt for fundamentals. Literature appears to take little interest anent origins. There is an old allegory concerning the orchid that blooms most gloriously when the roots are dying. Decadence blooms in literature of the genius ends of families as well as in the journey to the madhouse.

Sir Oliver Lodge had a postulate that a definite charge of protoplasmic energy is given to a genus, species or variety of organism and that the organism then runs down like a clock as the energy charge fails. In *homo* when the charge runs down there is failure of the egg to split up into the necessary two sexes required for propagation of the race. Let us suppose that the disappearance of nature's trial-and-error organisms of gigantic size may be accounted for in this way. People of cultural periods have disappeared when their charges of energy ran down. It is said that a highly developed group in Europe is now in charge of homosexual leaders. Perhaps the title of Wilde's book *Dorian Gray* was suggested by the history of the Dorians, who are said to have been the first of the Greeks to degenerate.

An artist of international fame and personal literary taste has pointed out that the so-called futurist movement in painting, sculpture, music and literature was in the hands of morbid homosexuals, for which reason the movement had comparatively limited vogue because it failed in general appeal.

It required the eerie genius of homosexual Leonardo to depict two emotions on the same face, i.e., furtive remem-

brance of recent mischief on his Mona Lisa.

—R. T. M.

Strawberry Shortcake

IF your moral code and moral goal are going to be purely utilitarian, with no regard paid to the "law of nature" which Cicero and Blackstone invoked so earnestly, then "mercy killings" should include not only the sick, but the aged, the unemployable, and perhaps the unemployed. This would be logical, even if revolting to the tender-minded.

The advocates of euthanasia display a queer kind of tenderness themselves which is a bit out of character. One branch of this Benevolent Order of Assassins plans kindly for a succession of pleasant chambers, one of which is the lethal one, to which the victim is successively committed with no knowledge of which is to be the fatal one. This seems intended to be considerate, but it assumes that the victim is dedicating himself enthusiastically to the sacrifice and harbors no terror or resentment in his mind. This is merely the way the euthanasia fanatics would like and intend it to be. They are like the Union Square Red who promised the crowd that his system would substitute strawberry shortcake for the bread of the poor and who replied to a skeptical heckler who put in an objection to the effect that he didn't like strawberry shortcake that he, the objector, was going to get strawberry shortcake whether he wanted it or not, and that he was going to like it, too.

According to the Associated Press, a very modest utilitarian, Major Edward L. Dyer, of the United States Army, re-

tired, thinks that at least some aged persons should be humanly killed to lessen the relief burden. He would also save the expense of keeping the criminally insane or hopelessly insane, first-degree murderers, and children born as monsters. This for a modest beginning.

Major Dyer recommends that the Commandment "Thou shalt not kill" be formally amended, exceptions already in operation being deaths due to war and automobile traffic.

The Reverend Edward E. Richardson, of Washington, wants Major Dyer to tell how the line is to be drawn in killing off the unemployed. This clergyman pointedly asks, "Are you going to start by killing off all the Democrats?" It will be seen from this that the issue has a political aspect; votes are involved (Washington please take notice). Would Mr. Hoover be eligible for Euthanasia Board service? Should we not insure bipartisan Euthanasia Boards? And should not the party representatives be chosen alternately, with the right of way perhaps conceded to Communists? We begin to see that there are points to euthanasia.

Will this kind of strawberry shortcake dessert to life's menu have to be eaten and liked?

A Reviewer's Afterthought

DOROTHY DUNBAR BROMLEY, in her review in the *Nation* (June 14, 1939) of Dr. Michael A. Shadid's book "A Doctor for the People", remarks that "A boy who came to the United States from a poverty-stricken Syrian home grew up to found this country's first cooperative hospital. Here is a refutation for those who argue that immigrants from other lands are a liability rather than an asset."

After writing the foregoing about the founder of the Elk City, Oklahoma, Community Hospital, another thought flashed through the reviewer's mind, and she added the following words: "Yet doctors interested in preserving the

medical status quo would probably swear that Dr. Michael A. Shadid has been a subversive element."

This stimulating review is a notable contribution to the general subject of immigration, in a way probably not fully realized by the writer.

Hard-Boiled Evolutionary "Virtues"

PROFESSOR SAMUEL JACKSON HOLMES, of the University of California, thinks that a mistake was made when man substituted authoritarian rules of life for the Darwinian "code of morals." The Christian and Hebraic way of life, it seems, is not in accordance with human nature. The Darwinian code is, and under

it the intrinsic virtues are cruelty, lust, deceit, cowardice and selfishness. The Christian and Hebraic system is alleged to be responsible for some of the world's worst problems and it is argued that such problems should be isolated from moral philosophy and left to science.

The virtues aforesaid have a useful role in the struggle for existence. Man's welfare and survival depend upon the extent to which he follows the laws of nature and adjusts himself to his surroundings, doing things for the good of his group and helping to protect it against its enemies. "Man's traits, in so far as they are a part of his inheritance, owe their origin and biological meaning to their survival value. All natural traits and impulses of human beings must therefore be fundamentally good if we consider the good as the biologically useful."

From the foregoing remarks of the distinguished zoölogist it can perhaps be seen why medical ethics fail, indeed, why they are a menace to the race. If one accepts the reasoning of Professor Holmes, all the pains that we take to help the biologically unfit are stupid and futile, to put it mildly.

Can it be denied that human society tinkers with the results of a Darwinism that is allowed to operate ruthlessly?

—Concluded on page 362



**ESTABLISHED
IN 1872**

Pruritus

ANI

CHARLES J. DRUECK, M.D., F.A.C.S.

Chicago, Ill.

PRURITUS cannot be exactly described.

It is not a disease entity, but a more or less comprehensive disturbance characterized in some cases by nervous manifestations of which itching at the anus is the most constant and perhaps the only complaint; and in other cases by polymorphic inflammatory and neoplastic changes in the diseased skin. It is difficult, in a brief yet accurate description, to discuss the variations in the clinical signs, because these depend upon (1) the underlying etiologic factor or factors; (2) the duration of the irritant; (3) accessory influences due to infection; and (4) to the remedies which have already been applied. Unfortunately, the objective signs give no indication of the causation, and the determination of the etiology is largely dependent on a detailed history of the sequence of events which precedes the onset of the itching. The necessarily exhaustive search for the etiologic bases of the itching is slow, tedious, and sometimes without avail, because itching may arise from a variety of causes. However, in typical cases one is able, by careful study, to differentiate between the main representatives of each etiologic factor, because each one constitutes a more or less distinct entity which is generally unrelated to the other forms.

PRURITUS, anal and perineal, and its treatment is one of the most difficult chapters in proctology and, perhaps, in all medicine. There are no characteristic organic changes in the itching areas as contrasted to non-itching areas, nor in the nervous or circulatory systems serving these areas. There is no clinical or microscopic morphology in the parts, as

the itching frequently occurs on areas without visible objective changes.

A certain amount of itching of the skin is physiologic, or of normal occurrence, in every individual and beast. It is only when the itching becomes excessive in a quantitative sense and requires treatment that it may be said to be pathologic. When a normal individual has his attention called to the sensory nerves of his skin, or when required to remain absolutely motionless as when being photographed or "standing at attention," he immediately becomes aware of certain areas in which there is a distinct though perhaps mild pruritus. All of us scratch or rub ourselves at some time during the wakeful hours of the day.

NERVE stimuli coming from the skin may record different sensations, such as cold, heat, tactile sensations, pain, or itching. The same end-organs register temperature, tactile, and pain sensations, and the type or quality of sensation is dependent on the degree of stimulus. The present neurologic concept holds that itching is a sub-pain sensation due to minute stimuli which, if increased or when applied under different conditions, are capable of producing sensations of temperature, of pain, or of touch. Itching cannot be produced in analgesic areas, i.e., those in which pain cannot be elicited, even though the tactile sense in these areas be normal. This is the reason why scratching, pinching, slapping, or vigorous rubbing relieve itching by producing pain.

The irritability of the autonomic nervous system determines, in a large degree, the recognition of these stimuli. In a vagotonic individual, in whom the threshold of irritability is lowered, a severe pruritus may be elicited by stimuli which are not appreciated by normal

individuals; as for example, slight friction or changes of pressure (clothing), slight changes of temperature (undressing), and mild chemical stimuli (soap).

In neurotic individuals, psychic changes or stimuli may produce itching; ordinarily non-prurigenic impulses may produce itching; or itching of slight degree may become intensified to unbearable proportions. In this manner, emotional trauma can produce perineal pruritus.

Hormonal disturbances are important factors which influence both the psychic and autonomic nervous mechanisms.

THESE many factors act and react upon one another, each influencing and being influenced by the others, until a slight stimulus may establish a vicious circle which may bring on a pruritic attack of ever-increasing severity and of long duration. In this manner, a rectal infection produces itching; the itching elicits scratching; the scratching increases and produces hyperemia; the local engorgement induces hypersecretion which brings more stimuli into action, and the vicious circle is established. As the psyche becomes fixed upon the pruritic area, there is increased readiness to perceive itching, and the subsequent skin changes, due to infection, maintain a "skin memory." These psychic mechanisms exert profound influences upon the autonomic and endocrine systems. For this reason, psychotherapy plays an important part in the management of pruritus.

All of these local and general, central and peripheral factors must be considered in our study of the pathogenesis of pruritus ani. The transitional mucocutaneous areas—anus, vulva, lips, and nares—are the usual sites of pruritus. There is no itching of internal organs, nor of the internal mucous membranes.

It is interesting that some etiologic factors in some cases produce rather typical abrasive reactions. In the itching due to hemorrhoids and cryptitis, the patient usually scratches superficially or only rubs, while in that due to proctitis or endocrine dyscrasias, he ruthlessly digs through the skin with his fingernails or with any other available object. Pediculi pubis practically never lead to the production of visible scratch marks.

Etiologic Factors

WE shall divide the most usual etiologic factors into the following groups:

1. *Nervous Instability.* It is not sufficiently appreciated that there is a considerable difference in the individual resisting power of the skin. One person can tolerate a certain strong irritant on the skin with impunity, whereas another apparently healthy man or woman cannot.

2. *Contacts.* These may be divided into contact irritants within the bowel and those applied outside the anus. Within the bowel are:

(a) Irritation of feces too long retained against the rectal and anal mucosa, as in constipation.

(b) Chemical and infective irritants brought down in a diarrheal stool. On the outside there may be

(c) Dried mucosal discharges from the rectum or vagina.

(d) Pin worms or pediculi.

(e) Irritating garments such as silk, rayon, or wool.

(f) Fungal growths.

3. *Sensitization Dermatitis.* The skin around the anus and on the perineum is thinner and more delicate and, therefore, more easily traumatized than that upon the hands, and a large number of substances which have no apparent effect upon the hands will very quickly irritate the perineal integument. This includes many of the so-called "trades" irritants, such as the acid carried from the hands of storage battery workers, the essential oils of lemons and oranges upon fruit handlers, and a variety of other chemicals such as occur upon factory workers. A frequently overlooked group of chemicals are those contained in scented toilet papers, toilet soaps, and body powders. This sensitization dermatitis exhibits a tendency to spread widely over the perineum and even to involve distant skin surfaces. Many may recall the onset of a dermatitis of the face or neck following the application of some unsuitable hemorrhoidal ointment or lotion. The same phenomena may act reversely following the infection of the skin by certain organisms, which accounts for the train of events in seborrheic dermatitis, and, in some cases, of interdigital dermatitis of the foot. The perineal skin

may also become sensitized by chemical substances reaching it from the intestinal tract or the blood, as food, toxin, or organisms. Sensitization to one substance not infrequently leads to sensitization to others, and consequently gives rise to further difficulties in the treatment.

4. *Reflex Irritation.* Individuality has also an important bearing on the origin and course of the itching, for scratching and rubbing due to lack of self-control may change a trivial localized patch of inflammation into an actively infected and inflamed area which may cripple the individual for months. Every effort must be made to resist rubbing or scratching, for if this is not stopped, no relief can be obtained.

5. *Foci of Infection.* Low-grade physical and mental resistance may play an important part in the effects of disease of the gastro-intestinal or genito-urinary tracts.

6. *Vegetative Nervous System.* Dis-

turbance here is evidenced by low diastolic blood pressure, high metabolic rate, rapid pulse, and a tendency to flush and to sweat on slight provocation.

7. *Blood Dyscrasia.* A blood picture should always be studied.

THE great progress which has been made in the recognition of these dermatoses not only has led to theoretical advances and to an approach to clearer understanding of the pathogenesis, but has also been most fruitful in the practical management of many of these cases. Today, the physician approaches the problems of a patient with pruritus ani by first attempting to identify the etiologic underlying cause, because determination of this fact often determines the entire therapeutic procedure, the prognosis and the prophylactic measures. Treatment that is successful in one group may be very unsuccessful and even harmful in another.

58 EAST WASHINGTON STREET.



FUTILITY OF ROUTINE

Jugular Pressure

READINGS

HAROLD R. MERWARTH, M.D., F.A.C.P.

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WE are presenting this paper to condemn a potentially dangerous tendency which has developed in the technique of eliciting manometric readings during a lumbar puncture. For some time we have been impressed with the widespread, frequently useless, most often needless, and too often ill advised

compression of the jugular veins. But for rare occasions this procedure is resorted to almost without exception when readings are taken at the time of a lumbar puncture. We should like to indict this general and inherently harmful practice of the routine use of jugular pressure during the performance of a "spinal puncture."

Judging from its widespread adoption, these tests, to the uninformed, must be impressive and convincing. When

From the Division of Neurology of the Brooklyn Hospital, the Neurological Service of the Kings County Hospital, and the Department of Neurology of New York University.
Read before the Brooklyn Neurological Society on November 23rd, 1938.

jugular pressure is applied, no attention is given to its possible ill effects. In fact, within our experience no thought is given to the narrow application of this specific manometric test, for there are certain very definite limitations for the use of jugular compression.

Too often, no consideration whatsoever seems to have been given to the reasons for jugular pressure manometric studies on the cerebrospinal fluid, and the information to be obtained by such tests, or, the serious ill effects which can well follow such a procedure when thoughtlessly adopted. From questioning we have learned that the average individual performing the rite of jugular pressure has a glaring total lack of knowledge of just what he is trying to do.

THE puncture of the subarachnoid space in the lumbar region was first introduced by Quinke¹ in 1891—since then spinal puncture has become a widely recognized and accepted test and is done for two purposes: 1. information, 2. treatment. It is often of the utmost importance. In practically all cases, and in competent hands, the simple withdrawal of cerebrospinal fluid, without superadded unnecessary diagnostic gestures, can be accomplished without risk to the patient.

Manometric studies were not introduced until 1916, although attention has been called to the original observations of John Hilton² who in 1860 revealed the response of the cerebrospinal fluid to the influence of bilateral jugular compression.

When digital pressure is applied on the jugular veins, it prevents the return flow of blood from the brain. Thus, brain volume is increased, which increase is immediately reflected on the cerebrospinal fluid pressure. It is such a sensitive mechanism that a very light touch will induce a rise in the spinal manometer. As Hilton showed, it even occurs in observations on cadavers.

If the current theory of the origin and circulation of the cerebrospinal fluid is accepted, such pressure can be reflected only on fluid outside the brain, namely, the fluid which has emerged from the foramina of Magendie and Luschka. It has no direct or immediate effect on the fluid still within the ventricles. Obvi-

ously, no information can be obtained from tumors, inflammatory diseases, or vascular diseases within the brain substance by the use of such jugular pressure readings.

The only positive value elicited from jugular pressure readings is when there is a failure or a delay in obtaining a rise in the manometer, as shown by Queckenstedt (1916), who utilized jugular pressure as a means of diagnosing spinal cord compressions, a reliable contribution to precision in diagnosis. A failure to obtain a rise is important and simply indicates a patent subarachnoid space. The essential use, then, of jugular compression is the detection of a block in the subarachnoid space about the spinal cord. The proper methods for careful manometric studies in suspected spinal cord tumors have been well outlined by Stookey³.

It should be emphasized that whenever a spinal puncture is performed one should be prepared to record pressures—preferably in the glass Ayer manometer. The readings as obtained through a mercurial manometer register changes too grossly and are not of sufficient delicacy to warrant its use except for the mere measurement of the initial degree of pressure.

THE interne staff of every established hospital institution, in the course of time, develop an "esprit de corps" which seems to permeate and invigorate each new arrival, increasing his value to the staff, while, in turn, each fresh individual adds his own tint to the whole pattern.

Slowly and insidiously, changes are brought about in the fashion of performing routine tests. A few of these innovations are due directly to a specific recommendation by a supervising physician, but in many others the adoption of a new procedure develops within the body of the interne staff, and frequently is continued for some time before the attending staff may be aware of any actual change. Often there may be merit in a change in procedure so instituted, but then again through ignorance actually harmful practices may become rooted so firmly that they are accepted as gospel. Such is this practice, which has de-

veloped in an annoying, insinuating fashion in the performance of manometric readings during lumbar puncture. The formula, apparently transmitted from one interne class to another, is that regardless of the basic nature of the patient's illness for which the lumbar puncture is being done, the impressive mystic manipulation measures must be performed in a ritualistic fashion or the spinal puncture cannot "enter the Kingdom of Heaven."

The following procedure is embraced: After the needle is in place and the manometer adjusted, readings are taken. So far so good. Then the test goes "haywire." The nature of whatever lesion is besetting the patient is forgotten, ignored completely, while the interest is shifted dramatically to the patient's neck. As if under hypnotic persuasion, pressure is made on the jugular veins. We have noted carefully recorded observations on the charts of many hospitals. This routine of jugular pressure, carried out so faithfully, is followed invariably without concern as to whether the patient is suffering from a tumor, inflammatory disease, or bleeding. These cabalistic ceremonies, as a routine, are not only unnecessary and potentially dangerous in many instances, but are so futile that except for one specific condition, absolutely no useful information can be obtained.

AS stated, jugular pressure tends to increase brain volume and, in so doing, in addition to the withdrawal of spinal fluid, may be a severe aggravating factor in the unfavorable outcome known to be sometimes associated with a lumbar puncture. It may contribute to the following mechanisms:

According to Masserman,³ repeated spinal punctures cause a progressive increase in volume of the intracranial contents from vascular congestion or cerebral edema decreasing the subarachnoid space. It is obvious that superimposed jugular pressure would seem to increase this tendency.

In intracranial hypertension the cerebral mass under tension attempts to escape through two outlets, the foramen magnum and the foramen of Bichat. The first constitutes the cerebellar pressure

cone, and the second, the temporal pressure cone.

There have been many past observations bearing on this problem, such as that of Collier⁴ in 1904, who remarked, "In many cases of supratentorial tumors, the tentorium is pressed downwards, and the brain stem and cerebellum are also pressed downwards. The medulla and posterior part of the cerebellar cone lie partly within the foramen magnum so that these structures together form a conical plug which fills the foramen magnum. This alteration in the position of the brain stem may be also demonstrated post-mortem by the deep indentation of the crura cerebri by the free edge of the tentorium."

H. CUSHING, in 1907, stated, "In conclusion one recognized characteristic of the brain under pressure is its tendency to herniate through a cranial defect and as there is normally an opening at the foramen magnum, a certain degree of protrusion is usually present there. In the presence of such conditions the withdrawal of cerebrospinal fluid by lumbar puncture is often hazardous and may tend to the sudden wedging of the bulb in the opening with anemia and paralysis of the vital centers." The danger of the withdrawal of cerebrospinal fluid in instances of brain tumor is well known. In the past, the stress has always been laid on the danger to suspected infratentorial lesions. However, the same potential danger must be anticipated in lesions above the tentorium. Nast⁵ cites seven instances in which cerebellar herniation as a cause of death occurred in cases where a previous lumbar puncture had been performed. Five of these cases were supratentorial. Not all of them were tumors. They included, 1. hemorrhage into internal capsule, 2. hemorrhage into basal ganglia, 3. two temporal lobe tumors and one temporal lobe abscess. The two posterior fossa lesions were a hemorrhage into pons and medulla, and a cerebellar abscess. There seemed no doubt as to the casual relationship of lumbar tap to death in these cases. Three cases showed immediate respiratory embarrassment. Death following lumbar puncture ensued in the other cases after: five minutes, fifteen minutes,

thirty-five minutes, and one hour and twenty-five minutes. At postmortem marked cerebellar herniation was found in four of the seven cases.

This report provides rather conclusive evidence as to the dangers of withdrawing cerebrospinal fluid. When we add to the danger the factor of changing pressure relationship, as a result of jugular pressure, the patient is placed in double jeopardy.

IT IS noteworthy that Cushing,⁷ in 1917, pictured a case of acoustic neuroma in which postmortem revealed scars of herniations over the temporal lobes, undoubtedly the result of the aforementioned process.

A temporal pressure cone may occur as a serious development in tumors of the cerebral hemispheres, and was described by Vincent, David, and Thiebaut,⁸ in 1936. In certain cases the engagement of the temporal lobe comes about in an acute manner; and most often following certain procedures, such as lumbar puncture with excessive evacuation of fluid, and a ventriculogram not followed by immediate intervention.

The mechanism of production of the temporal pressure cone is based on the almost constant finding of an increase in volume of the encephalitic mass, whatever be the cause (cerebral edema, ventricular dilation, or circulatory difficulties). In the region of the new growth the increase in volume is particularly marked. The herniation of the temporal lobe provides displacement of the cerebral tissue and by pressure produces circulatory difficulties of great severity.

In attempting to explain the pressure cone, Smyth and Henderson,⁹ through simultaneous ventricular and lumbar punctures, showed six cases in which the ventricular pressure was greater than the lumbar. These without exception showed herniation of the ipsilateral temporal lobe through the incisura tentorii cerebelli. Five of the brain tumors were supratentorial.

In four cases of proved subtentorial tumor with marked tonsillar herniation, the pressures were equal.

In the growth of the tumor the affected cerebral hemisphere increases in bulk at the expense of adjacent sub-

arachnoid cisterns. If herniation of the temporal lobe occurs, the further pressure on the iter increases the hydrocephalus.

Van Gehuchten¹⁰ (1937) reported six cases of supratentorial brain tumor with severe degree of tentorial herniation. In four cases death appeared to follow lumbar punctures and ventriculography.

Penfield¹¹ suggests that lumbar punctures may precipitate a fatal anemia of the bulb, since he has noticed evidence of compression of the vertebral artery.

On the other hand, Fremont Smith¹² stated that "The first effect would be an increasing compression of the veins draining the respiratory and other vital centers in the medulla."

IN cerebral neoplasms great care must be exercised. The only indications for testing the cerebrospinal fluid in suspected brain tumors are the measurement of pressure and the elimination of syphilis. No other useless gestures should be or need be made. From a purely diagnostic or localizing viewpoint in suspected brain tumors, the examination of the cerebrospinal fluid is often not at all necessary. Particularly where papilledema exists the value of withdrawing spinal fluid must be deliberated very carefully and each case evaluated upon its own merits.

The danger of withdrawing spinal fluid in a subtentorial lesion should not require comment. Even when a fair certainty exists that the lesion is above the tentorium, based on the experiences of the authors quoted above, one must still be very careful in the removal of cerebrospinal fluid. In the presence of "choked discs," the only valid reason for examining the cerebrospinal fluid is the elimination of the aforementioned syphilis of the central nervous system. If for some reason, a spinal puncture is attempted in the presence of the papilledema, under no conditions should "itching fingers" be placed on the jugular veins. Such pressure is definitely hazardous. Not only dangerous, but, if one reflects, what possible information can it give?

It has been said that there is an exception—viz., in cases of suspected lateral sinus thrombosis where the involved side cannot be definitely deter-

mined clinically, unilateral jugular pressure may lateralize by revealing a failure of the cerebrospinal fluid to rise on the involved side. We have never had occasion to resort to this refinement, but are willing to make it the single exception to our rule.

The one exception to the edict against routine jugular pressure readings in spinal punctures is the test for patency of the subarachnoid space in suspected tumors of the spinal cord or other compression lesions of the cord. Only in disease processes affecting the spinal cord

do such manometric readings yield worthwhile evidence. It is then that a careful recording of precisely performed tests utilizing jugular pressure is acceptable and required.

The following cases are presented to illustrate the futility of ill-advised and frequently unnecessary jugular pressure readings made as a routine on patients with cerebral lesions. These cases merely serve to emphasize the importance of evaluating a patient's neurologic disorder before subjecting him to a lumbar puncture with jugular compression.



Case 1. That of a 47-year-old male complaining of occipital headaches, dizziness, and generalized weakness. Examination revealed positive Romberg, bilateral papilledema, and other cranial nerve signs. This was a proven case of right parietotemporal spongioblastoma, yet a Queckenstedt test was performed. The chart note states, "The fluid spurted out under great pressure, 25mm. of Hg. It rose very slightly on cough, Queckenstedt test positive, fluid clear. 40 cells present. The patient reacted very favorably to the spinal tap, lost his sluggishness, and became quite active." However, a note made the next day stated, "The patient was apparently conscious on admission, but at present is comatose so that tests are unsatisfactory. Both discs are choked." The neurosurgeons were then hurriedly called, appropriate treatment instituted and the patient operated upon three days later.

Although the immediate reaction of the patient to lumbar puncture was not unfavorable it is of interest to note that 24 hours later stupor developed. Also, a useless Queckenstedt procedure was attempted in a patient suffering from a tumor of the brain. Certainly jugular pressure supplied no information whatsoever to the solution of this case and may have contributed to the disturbance in the physiopathological hydrodynamics of the intracranial contents.

Case 2. That of a 31-year-old male who following a fall developed symptoms of severe bilateral frontotemporal headaches, dizziness, vomiting, and some personality changes. A spinal puncture performed on admission showed the initial pressure to be 40cm. of water due to the patient's struggles, but this shortly dropped to 15cm. Right and left jugular pressure showed a rise to 19cm. with a prompt fall. 10cc. of clear fluid removed with no immediate reaction. The next morning note, however, states, that "bizarre findings are present which are not typical" and stimulants were ordered. Due to the accompanying rise in temperature the case was considered one of brain abscess or tumor and 24 hours after the first tap, a second one was performed and bloody fluid was obtained with no increase in pressure. The note states, "Jugular pressure again gave an increased low rise." The bloody tap was believed due to trauma in the procedure and two days later a central facial weakness appeared. Five days after admission the patient appeared to be in extremis. Operation demonstrated a right subdural hematoma, 100cc. of dark fluid blood being evacuated.

Again jugular pressure, obviously valueless in this condition, yielded no information and undoubtedly contributed to the stuporous state and temperature rise which followed lumbar puncture.

Case 3. That of a 43-year-old woman who following an automobile accident complained of severe generalized headaches, and disturbance of gait, so that she experienced many falls. On the day of admission a spinal tap was performed with the patient in the sitting posture. The pressure was 35cm. of water with immediate rise to 40cm. with jugular compression on either side. The fluid was withdrawn until it dropped slowly with the hope of relieving the headache. She also received hypertonic glucose. She felt some relief for a little while, then vomited several times during the night, and was still complaining of a severe headache which was not relieved by acetylsalicylic acid. Two days later a second puncture was done and following this the patient went into a deep coma from which she could never be aroused. The note states that she was tapped with difficulty, that only 5cc. of clear fluid was removed, dropping very slowly. The pressure was so negligible that it could not be read. The patient's course continued downhill and she died the same night. The postmortem on this case showed a subdural hematoma with a pressure cone about the cerebellum.

Obviously neither lumbar puncture nor jugular pressure helped this case. A definite change for the worst followed the second lumbar puncture.

Case 4. That of a 46-year-old male complaining of parieto-occipital headaches, numbness and weakness of the right extremities, and sudden collapse while walking in the street. Examination showed unequal pupils, neck rigidity, positive Kernig, bilateral Babinski, and marked ataxia on the right. A spinal tap was done, the initial pressure was noted as "30mm. of Hg. raised to 36mm. by abdominal pressure, to 38mm. by pressure on the right jugular, and to 34mm. by pressure on the left jugular. 20 cc. of bloody spinal fluid was removed." This patient then developed blurring of the discs, progressive weakness of the right extremities, and five months later died.

This case shows the futility of carefully charted manometric readings. They contributed nothing to the case.

Case 5. That of a 36-year-old woman who was admitted for headache, vertigo, faint feeling, and a stiff feeling of the right face, preceding a period of unconsciousness. She was unconscious for five hours. On admission she was lethargic, drowsy, had a stiff neck, early papilledema, left central facial paresis, hypalgesia of the left 5th with deviation of the jaw to the right, and bilateral Babinski. A spinal tap was performed, initial pressure 10mm., clear, followed by head-

ache, and nausea. A note states, "A lumbar puncture was done, 15 cc. of bloody fluid was removed under pressure followed by slight clearing of the sensorium." The next day the patient improved slightly but some signs persisted; another tap revealed xanthochromic fluid under no pressure. Queckenstedt test showed a rise of only 2 mm. of Hg. On operation a right subdural hematoma was found.

Here again there was no purpose to the jugular pressure.

Case 6. That of a 23-year-old-male with a history of chronic ear disease and acute onset of chills, headache, right peripheral facial paralysis, and fever. Examination showed a purulent discharge from the right ear, moderate Kernig, slight nystagmus, and uvula and tongue protrude slightly to the right. On the day of admission a lumbar puncture was performed and a note states, "Fluid clear, not under pressure, initial pressure 12 mm. of Hg., compress right jugular no rise, compress left jugular 20 mm. of Hg., cell count 20." Following the lumbar puncture the patient had a right radical mastoidectomy and an epidural abscess containing 6 cc. of foul pus was unroofed. Cerebellar dura was found slightly congested. However, headaches, neck rigidity, and bilateral Kernig continued and five days after the first tap a second one was performed. This showed crystal clear fluid, 13 cells, negative on jugular pressure, pressure 8 mm. Globulin 3 plus, sugar reduced, negative Wassermann, gold curve. The following day a note states, "The patient is slightly drowsy but responds to questioning, some neck rigidity, slow pulse disproportionate to temperature. Evening temperature 102." The patient developed drowsiness, photophobia, blurring of the discs, right hyperreflexia, permanent left ankle clonus. He was transferred to neurosurgery where following appropriate treatment he was operated upon and a right temporal lobe abscess containing 30-40 cc. of pus was found.

In this case, the first jugular pressure, a Tobey-Ayer test, was advised. There was a question of lateral sinus thrombosis. However, the sinus was patent, as shown by the second spinal tap in which again jugular pressure was performed.

The next two cases did not have jugular pressure but serve to illustrate the effect of spinal puncture in supratentorial lesions.

Case 7. That of an 11½-year-old boy who two weeks prior to admission developed severe frontal headaches, projectile vomiting and vertigo, with marked hypersomnia. A spinal tap performed at another hospital was followed three hours later by the sudden onset of coma in a boy who had previously been alert and conscious. He had a temperature of 103 and painful stimuli over the face or body produced decerebrate fragments. He showed a bilateral Babinski. He was rushed to the neurosurgeons who found a right temporal lobe abscess upon operation. Note on the chart states, "The child apparently became stuporous after the spinal tap. The character of the fluid is not recorded." And an-

other note on the afternoon of the day of operation states, "A persisting deep stupor, rising temperature, tachycardia, rapid shallow respirations with audible rales, and pallor are all of poor prognostic import. Apparently diencephalic embarrassment that is irreparable." On postmortem the cerebral convolutions were everywhere flattened and edematous, particularly in the region of the right temporal lobe, extending around the under surface of the temporoparietal region.

This case is similar to those described by Vincent, David, and Thiebaut²² where herniation of the temporal lobe was found.

Case 8. That of a 34-year-old female who is transferred from another hospital where she had been treated for some time because of an evaluation of the scalp following a fall from a third story window. A skin grafting operation was done and she appeared to be in good condition following the operation. However, two weeks later she became drowsy, complained of severe occipital pain, and vomited constantly for 24 hours. Examination showed bilateral Babinski, dysmetria in the uppers, fundi negative. A lumbar puncture was performed at 5 p.m., initial pressure 24 mm. of Hg., fluid clear, cell count 120. At 8:30 p.m. neurosurgeons were called, patient was mentally befuddled, complained of severe neck pains, and showed blurring of left disc with engorgement of veins, slight left facial, and definite paresis of left extremities. Left hyperreflexia, bilateral Babinski, and a left Hoffmann were also present. Neurosurgical diagnosis was right-sided supratentorial lesion, possibly temporal lobe abscess or subdural hematoma. The patient died suddenly at midnight and a note states, "The cause for the sudden demise is not clear and is not the usual termination of such cerebral phenomena." Pathologically *Staphylococcus aureus* was cultured from the abscess of the brain.

Again a supratentorial lesion which developed complications rather acutely following a lumbar puncture. Many of the clinical signs appeared after the lumbar puncture and can only be explained on the basis of a disturbance of the intracranial hydrodynamics.

Case 9. That of a man 27 years of age who following an upper respiratory infection complained of frontal headaches, retro-orbital pains, nausea, vomiting, chills, and personality changes. When examined there was bilateral papilledema, 2½ diopters on the right, and 3½ on the left, with bilateral 6th, and a right central facial. Also questionable Babinski on the right. Lumbar puncture performed at another hospital showed initial pressure to be 30 mm. Hg., final pressure 17 mm. Hg., 18 cells, 2 plus albumin, zero globulin. Following the transfer patient was operated upon, and a large, left, frontal spongioblastoma was found.

Again in this case one notes the lack of judgment in performing a spinal puncture in the face of 3½ diopters of papilledema. The case might have been better treated by initial ventriculogram rather than lumbar puncture.

Summary and Conclusion

AN attempt has been made to criticize unfavorably the routine use of jugular pressure in the determination of manometric readings during lumbar puncture. Cases have been cited to prove

the futility of such a routine procedure, and the potential danger of increasing the bad effects known to be associated with the injudicious withdrawal of cerebrospinal fluid.

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—Concluded on page 378

EMERGENCY TREATMENT OF *Fractures*

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AS the most common bone and joint lesion is a fracture the emergency treatment is important.

What First Aid Is:

The first-aid treatment of fractures begins immediately following the accident, and must be maintained until the patient has been transported to a hospital and the permanent treatment instituted. The ambulance of every hospital should be fitted with an emergency fracture outfit consisting of Thomas splints and the necessary bandages, slings, sheet cotton, and paper clips for applying emergency traction. Without immobilization most fractures of the femur or humerus arrive at the hospital with marked shortening and angulation; but when these same fractures are splinted and transported they arrive at the hospital with little or no shortening and angulation. Adequate first aid when it is carried out as soon after the injury as possible simplifies the final treatment. Absence of the initial treatment of the fracture by immobilization often leads to serious complications, delays the permanent reduction, and increases the shock and pain to the patient. In our treatment we must consider the condition of the patient; and then direct our local treatment of the fracture so as to shorten the period of disability to a minimum and restore function of the part to a maximum.

General Treatment of the Patient:

The general condition of the patient must be evaluated. The young, robust adult can withstand severe trauma much more easily than the very young or elderly patients. In the elderly other

complications of pulmonary, cardiac, or renal origin may occur. If the patient is un-

conscious many serious injuries such as multiple fractures of the spine, pelvis, or extremities must not be overlooked. The pain of the injury must be relieved by giving morphine sulphate hypodermatically immediately. The dose should be large enough to accomplish its purpose. Relieving pain also lessens the associated shock. The shock is treated by protection from exposure and by covering the patient well with blankets. The other medication of value in shock is caffeine sodium benzoate as necessary.

Examination:

The patient must be examined quickly and without increasing his discomfort. All rough manipulation and attempts to elicit crepitus are contraindicated. During examination all unnecessary exposure is avoided. Whenever there is a question of a fracture, treat as such until proven otherwise. Gross deformity of an extremity is readily seen. Maintain firm, steady, continuous, and strong traction on any fractured extremity during your examination. If this is done with the extremity in its normal line your procedures of examination and dressings are made easier. The traction prevents muscle spasm, relieves pain, and prevents further soft tissue damage. Injuries to the skin such as abrasions, lacerations, or protrusion of bony fragments are noted. Nerve injury should be tested for by having the patient move the fingers or toes.

Simple and Compound Fractures:

Simple and compound fractures are treated alike except for the wounds present. As every compound fracture is potentially infected, no cleansing or dé-

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bridement can be attempted in the first-aid dressing. Small or large wounds should be covered with a sterile dressing after painting the edges of the wound with tincture of iodine. In doing this begin at the lacerated edge and paint away from it so as not to further contaminate the wound. Under no circumstances should any probing, picking, or attempt at cleansing of the wound be done until the patient is hospitalized and anesthetized.

If large blood vessels are cut, a tourniquet may be needed. In applying it, place it above the knee in the lower extremity and above the elbow in the upper extremity. The tourniquet must not be left on the extremity indefinitely for fear of gangrene in already devitalized tissue. It should be loosened from time to time to allow bleeding to occur. Oozing from any wound is best controlled by firm pressure.

Fractures Should Be Splinted, Not Manipulated:

The local treatment of the fracture varies with the bone involved. During the World War the slogan in fractures was "Splint 'em where they lie," and that statement is equally true today in civil practice as on the battlefield. Splint them immediately. The initial trauma may have left the bone ends in apposition and we would not want to displace them. Manipulation, if done, may displace the fractured fragments, or may cause the sharp bony ends to do considerable damage to the surrounding soft tissues. Certainly every movement of a fracture increases the hemorrhage, swelling, and inflammatory products thrown out by nature. A large blood vessel or nerve may be damaged with disastrous results. A more serious condition is the conversion of a simple fracture into a compound one through manipulation, by puncture of the skin, thus opening the way for sepsis

with its prolonged convalescence or loss of life and limb. When gross deformity is present in compound fractures it may be better to apply the temporary splint in line with the deformity without correction. Do not make any vigorous attempts at reduction until they can be done painlessly, as they are not needed in the first dressing.

Requirements of a Splint:

The requirements of a good splint are (1) that it be long enough to immobilize the part, which requires the immobilization of the joint above and below the site of fracture, (2) that it prevent further deformity, and (3) that it hold the extremity so that moving the patient does not cause pain. As the ideal splint usually is absent at the site needed, many other improvised ones can be made of wood or pillows.

Summary

THE important points in first-aid treatment are:

1. Relieve the pain by morphine sulphate hypodermatically.
2. Treat the shock by warm blankets and avoidance of undue exposure.
3. Prevent further injury to the damaged extremity by unnecessary movements.
4. Splint the fracture securely, using a splint long enough to produce immobilization of the joint above and below the site of injury.
5. Cover all compounded wounds with sterile dressings immediately.
6. Control severe hemorrhage.
7. Transport the patient to a hospital as quickly as possible where the permanent treatment can be carried out and roentgenograms can be taken.
8. Do not perform painful operations or manipulation until the patient is anesthetized and you are ready to carry out further treatment.

PROFESSIONAL BUILDING.




EDITORIALS

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To what purpose? There is confusion here. It is a little hard to escape the

conclusion that man is an ass who doesn't know "what it is all about" (or what anything is about).



CLINICAL NOTES

ON October 3, 1935, W. U., a white male, aged 23, who was a chain store manager, had an attack of severe pain in the left chest at nine o'clock in the morning, while reaching for a package on a high shelf in the store. Because of increasing pain he came to the office for examination, when it was found that he had complete left-sided pneumothorax. He was hospitalized for two weeks and convalescence was normal except that at first puncture had to be performed to relieve pressure on that side, there having been present, apparently, a valve action at the site of the perforation.

On July 10, 1937, he had a similar attack

of complete pneumothorax of the right side which produced milder symptoms and from which he recovered more rapidly,

possibly because of less apprehension on the part of the patient.

Careful physical examination and repeated x-rays have revealed no pulmonary lesion. The first attack was the subject of trial before the Compensation Commission and the verdict was for the patient. At the time of the second attack the onset was due to the same cause, but, as

at that time he owned his own store, compensation insurance was not involved.

1252 SIXTH STREET.

COMPLETE SPONTANEOUS UNILATERAL PNEUMO- THORAX WITH RECUR- RENCE ON OPPOSITE SIDE

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SALIVARY GLAND TUMORS

Case No. 1: H. A. A., white male of 34 years, was seen in November, 1935, complaining of a mass of the right face which was first noticed ten years previously. It grew progressively larger and in March, 1933, he was examined at the

Read before the Nassau Surgical Society, September 12, 1938.

JOHN N. SHELL, M.D.

Freeport, N. Y.

United States Naval Hospital of Brooklyn, which referred him to Memorial Hospital, New York City, shortly afterward. An aspiration biopsy was done



Pre-operative

Post-operative

CASE NO. 1

which showed a mixed tumor, salivary type, the epithelial portions suggesting malignant qualities. A lateral x-ray of the skull was made after injection of lipiodol into Stensen's duct, which showed that the parotid gland was displaced downward by a large mass which measured about 10 cm. in diameter. He was seen in consultation by the staff, and the consensus of opinion was that only surgical removal was possible in this case. Soon afterward, however, the patient went to another physician who gave him a more optimistic outlook and the case was then terminated at Memorial Hospital. The swelling continued to increase in size and he saw another physician who told him the mass could be removed under local anesthesia. This was attempted and only a small amount of novocain injected when he went into a state of collapse. He was finally revived, however, but further attempt at removal was not made. He was told that the reaction was due to the novocain.

Patient is married and has two children. Past history essentially negative.

When seen in November, 1935, he presented a nodular mass of the right face immediately in front of the ear extending from about the level of the upper margin of the external ear to well below the angle of the jaw. It was not attached to

the skin, a part of which was soft and other portions fairly firm in consistency.

Surgical removal was again advised and he was forewarned of the likely possibility of sacrificing the facial nerve at operation. He was then admitted to the hospital and on November 15, 1935, under gas-oxygen anesthesia, the tumor was excised. The mass was encapsulated and involved all of the parotid gland except a very small portion of the lower and deeper part. The facial nerve was incorporated within the substance of the tumor and no attempt was made to preserve it. Stensen's duct was ligated and severed, a short distance from the gland.

The tumor, after removal, measured $11 \times 7\frac{1}{4} \times 6$ cm., and on section showed opaque areas, several small cysts, a few hard fibrous zones, and areas of myxomatous material which was the predominating element. Microscopically the sections showed mixed tumor of salivary gland. No malignant portions were observed.

Patient was discharged from the hospital on seventh day postoperatively, wound healed by primary union, and the appearance of the face markedly improved in spite of the fact that he had a right-sided facial paralysis. He has been followed at regular intervals since operation and at present there is no evidence of recurrence.



Above: Pre-operative

Right: Post-operative

CASE NO. 2

Case No. 2: M. S., a white female of 54 years, was seen May 21, 1938 complaining of swelling of the right face of 38 years duration. The mass remained about the size of a walnut from the age of 16, when it first appeared, until 10 years ago when it began to increase in size and has become progressively larger. No pain.

Patient has always been quite well. Past history essentially negative.

On examination, a mass was present in front of and below the right ear, the vertical diameter measuring 7 cm., nodular and fairly soft throughout. It was not attached to the skin, was movable, and not tender.

Patient was admitted to hospital and on June 16, 1938 the mass was excised. It was completely encapsulated by thin fibrous tissue which made removal relatively easy. This was entirely separated from remaining parotid gland. Stensen's duct was not disturbed. The temporal branch of the facial nerve was seen at operation and was not disturbed. Other branches of the nerve were not seen. The tumor, after removal, measured 6 x 5½ x 5½ cm., and on section had a peculiar

grayish gelatinous texture, with many foci which were yellow and soft, resembling fat. Microscopically the sections showed a mixed tumor of salivary type, showing a great deal of edematous and myxomatous tissue.

Patient was discharged on 4th day postoperatively, with no evidence of facial nerve injury. At present, which is only 3 months, there is no evidence of recurrence.

Mixed tumors of the salivary glands are of a relatively common occurrence, particularly when the subvarieties of the



face and pharynx are included. There are numerous reports in the literature.

About 90% of the tumors of the salivary glands are mixed tumors, so called because there is evidence of both mesoblastic and epiblastic origin. More than 75% of these are found in the parotid gland. They occur at all ages, but more frequently between 20 and 40 years. A few quiescent or slowly growing tumors have been observed at birth and a case has been reported at the age of 73 years.

The clinical course is usually the development of a painless mass which re-

mains quiescent for a period, frequently 10 years or longer, followed by a period of active growth. However, the behavior of these new growths is quite variable and occasionally their growth is progressive from the start. Beginning as a small growth, the development is within a capsule, which may, if undisturbed, increase to the size of a grape fruit. As a rule, they are firm in consistency, but may be soft and cystic de-

pending on the predominating element of the new growth.

These new growths should not be considered as malignant but recurrence occurs when removal is incomplete. The prognosis is good and cure usually follows when complete surgical excision is done. Irradiation is ineffective. It is not uncommon to sacrifice the facial nerve in these mixed tumors of the parotid.

200 WEST MERRICK ROAD.



COMPLICATED SUPRACONDYLAR

FRACTURE *of the Humerus*

Case Report

WILLIAM P. BARTELS, M.D.

Hempstead, N. Y.

THE complications of primary nerve and arterial damage in supracondylar fractures occurring in childhood are infrequently seen. The exact incidence of primary nerve and arterial complications of the ordinary, extension type, supracondylar fracture could not be obtained from a survey of a large amount of literature dealing with fractures of the lower end of the humerus. The impression was gained, however, that these complications occurred in less than four per cent of supracondylar fractures. Median nerve paresis is the most common complication of the extension type fracture, whereas ulnar nerve involvement is the most common complication of the flexion type supracondylar fracture. Injury to the brachial artery occurs only with the extension type fracture and is, fortunately, a rare compli-

cation. A case of supracondylar fracture of the humerus, unusually complicated, is here reported.

A six-year-old, white male was admitted to Meadowbrook Hospital 4-19-38, with the right upper extremity bandaged to a straight board, complaining of pain in the elbow region. It was ascertained that the boy had fallen from a parked truck, while at play, less than one hour before coming to the hospital.

ON examination, the child was found in good general condition with no injuries except to the right upper extremity. A supracondylar fracture of the right humerus was present with the humeral shaft fragment protruding against the skin of the front of the elbow. The skin of the cubital area was contused and distended by a large hematoma. The hand was warm but mildly cyanotic in appearance. The child would not move the fingers. Tested by pin prick, complete anesthesia in the hand, of median nerve distribution, was found. Extreme hypersensitivity was found in the ulnar nerve supplied area. The child would cry out when the fifth finger was

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stroked only gently. No pulsation could be found at the wrist in the right radial and ulna arteries. The left upper extremity was normal. Fluoroscopic examination, under general anesthesia, proved reduction difficult and maintenance of reduction insecure even with the elbow acutely flexed. The lower end of the humeral shaft fragment was seen to have the two-prong conformation such as is seen when a supracondylar fracture occurs in a child, where the humerus has an epitrochlear foramen or exceedingly thin lamina of bone between the medial and lateral supracondylar ridges. Such a conformation is apt to lead to difficulties in reduction and retention and demands both acute flexion and control of rotation for successful management. In the case of this patient, flexion of the elbow at less than a right angle was definitely contraindicated. To meet the problem, a method of reduction of the fracture, gradually, and by stages, as the circulatory condition of the extremity improved, was planned and adopted.

UNDER general anesthesia a Kirschner wire was inserted through the right olecranon. Gentle traction on the flexed forearm was maintained while a plaster spica was applied, incorporating the wire. The shoulder was fixed in 80° abduction, slight forward flexion, and neutral rotation while the forearm was fixed in midposition and the elbow was bent to an angle of 100°. A window was cut out over the front of the elbow and upper forearm to obviate any possibility of external compression, and to allow observation of the traumatized skin. At intervals of about 72 hours, the forearm and elbow portions of the spica were removed without anesthesia and the elbow flexed 10°. New plaster was applied, incorporating the Kirschner wire and holding the new position. Roentgeno-

grams were taken repeatedly to follow the progress of the reduction. Finally, on April 29th, 10 days after admission, the elbow was flexed to 35° and the wire was removed. At this time the swelling had largely subsided, the skin blisters, which had developed, were drying up, and weak active motion of the fingers was present. Neither radial nor ulnar pulse could be felt, nor had any improvement occurred in the sensation of the hand. Roentgenograms showing satisfactory reduction of the fracture, the patient was discharged the next day. When seen on May 10th, three weeks after the injury, both the ulnar and radial pulses could be easily palpated, and the hyperesthesia of the ulnar nerve area of skin supply had disappeared. Much diminished sensation was present in the area of median nerve supply. On May 27th, the spica was removed and a sling was substituted. At this time a complete return of sensation in the hand had occurred, with good, strong finger motion. All protection was removed on June 10th and treatment was limited to hot soaks daily and encouragement of the active use of the extremity. The parents were forbidden to manipulate the elbow. At five months following the date of the accident, examination showed a normal extremity except for 10° limitation of full flexion of the elbow. The contour of the lower end of the humerus and the carrying angle were identical with those of the normal extremity.

Summary:

A CASE of supracondylar fracture of the humerus in a child, complicated by a brachial artery occlusion, with median and ulnar nerve involvement, and treated by a method of gradual reduction over a 10-day period, utilizing a plaster arm pica and fixed Kirschner wire traction, is reported. An exceedingly satisfactory result was obtained.

SUBARACHNOID HEMORRHAGE

Treatment of subarachnoid hemorrhage by frequent lumbar puncture is recommended both for its immediate therapeutic effect and as prophylaxis against the potential complication, hydrocephalus.

—H. R. Merwarth, M.D., and
I. S. Freeman, M.D.,

in *Brooklyn Hospital Journal*, July, 1939.

PUNCH-COAGULATOR FOR

Rectal Carcinomas

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Preliminary Report

ELECTRO-COAGULATION is definitely indicated in a certain proportion of rectal carcinomas. We may omit for the present the early cases. This leaves the very large number of advanced cases who seek palliative treatment and avoidance of colostomy. Experience with local cauterization or coagulation of such cases over a period of several years has given the author considerable satisfaction. Symptomatic relief was obtained, for short or long periods, depending on the type of growth. The operative procedure, however, was time-consuming and difficult. In an attempt to make the operation less tedious and more thorough, a punch-coagulator was designed. The object was to coagulate, then "bite out" pieces of tissue under direct vision, and, at the same time, dispose of severed fragments, blood, and smoke.

The punch-coagulator is shown in Fig. 1. It consists of one steel tube sliding within another; the inner tube sharpened to form a punch; the outer tube moderately pointed to form a coagulating tip. The punching action is completed by squeezing together the halves of the pistol-grip. A small spring separates them again as pressure is released.

Coagulation is effected at will, by pressing the usual footswitch at the moment of application of the instrument's tip to the carcinomatous tissues. Aspiration is continuous throughout, requiring no special attention. If the instrument becomes clogged, it can be dipped into a basin of sterile water and thoroughly flushed. It can be separated into its two parts by disengaging the small catch at the base of the handle (Fig. 1, b).

IN actual use, the instrument is inserted through any lighted non-metal proctoscope, of a diameter convenient to the operator. The technique generally followed is this: aspiration of mucus and blood to clear the field; coagulation around the area, and over the area, as extensively as conditions will permit; finally, punching out of the tissues that have been coagulated by the spark. Successive steps of coagulation and punching out are continued until the area is cleared to the satisfaction of the opera-

—Concluded on page 371

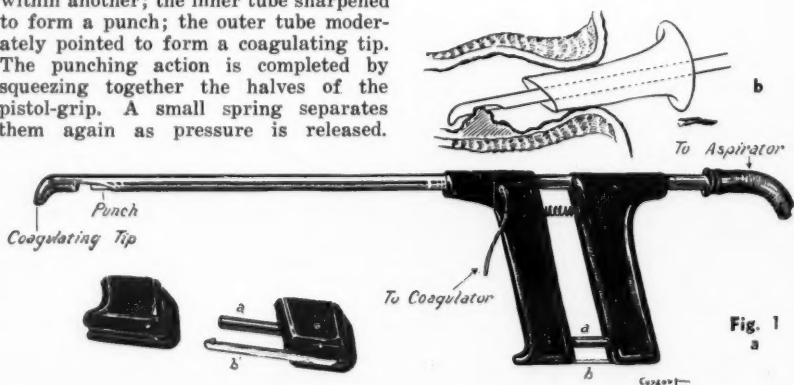


Fig. 1
a

MENTAL HYGIENE NOTES

THE facts of individual differences indicate that in so far as it is practicable, every child should have a tailor-cut educational program to fit his unique individual needs. Although the following formulation of psychiatric educational principles and practice was made with the epileptic school child primarily in mind, nevertheless, the basic philosophy and principles underlying this expression may be applied, in many instances, with varying emphasis, to atypical children in general.

1. Our prime objective is that of education of the total personality and not merely concern with "attacks." The epileptic individual has to learn to live effectively with himself whether attacks are present or not. Thus, curricular as well as extracurricular areas of living are equally important. The child, in time, learns to accept seizures as part of a personality disorder, and that without morbid reflection or preoccupation. He

learns through experience, with the help of discussions which make for insight, how to handle the various precipitating factors, not only with respect to seizures, but also to varying degrees of social and emotional maladjustments. The nuclear problem is that of emotional reeducation. This is paramount, as there is, in most instances, or perhaps always, an emotional trigger which facilitates an attack. Thus, emotional stabilization and solidarity is a cardinal objective. The ability to relax and to be reasonably happy, in the light of a wholesome acceptance of self

and adequate blending with one's social milieu, are pivotal goals in education.

2. Since many children suffering from epilepsy will be handicapped in varying degrees with respect to social and occupational accomplishments, it is important that these children, from an early age, be encouraged and guided in various types of hobby interests and activities. Thus, undue dependence upon others for satisfactions in living will not be the rule.

3. A critical and trained moment-by-moment supervision, leading to pertinent discussions, is the keynote of understanding of personality problems, as well as their reconstruction and prevention.

Keep in mind that it is the activities which are supervised, and not the children whom we are assisting in gaining habits of self-confidence and self-reliance, as well as self-criticism, self- and social control.

4. Maintenance of general health is essential, since a lowering of functional efficiency of various component parts of the personality, be it somatic, intellectual, emotional, or volitional, frequently makes for occurrence of seizures, as well as social maladjustments.

5. Skill in reading 'the child's "emotional quotient"' as a barometer of personality reserve is important, since children with epileptic syndromes are apt to be, emotionally, loosely put together, and rapidly dissipate personality adjustment energy.

Thus, a recognition of limitations of emotional fluctuations and keeping well within one's reserve are helpful in maintaining a healthful status.

6. With the proper medical and educational guidance, most epileptic children of average intelligence can enjoy the advantages of a high school education, and many can go on through college, as well as espouse professional and educational careers.

7. In view of a tendency to emotional and intellectual entanglements, especially in relation to the pre- and post-seizure occurrences, habit training in simple manual skills is desirable. This will foster traits of sufficiency and contentment, which means so much in living with one's per-

PSYCHIATRIC PRINCIPLES IN EDUCATIONAL METHODOLOGY WITH SPECIAL REFERENCE TO EPILEPTICS

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Abstract of an address before the Annual Meeting of The American Psychiatric Association, San Francisco, June 6, 1938.

MEDICAL TIMES, AUGUST, 1939

sonality deviations and fluctuations.

8. Effective socialization is a cardinal objective which must ever be kept in mind. Growth in one's ability to adapt to group living, and to participate with ease and a feeling of security, is essential for happiness and success. To this end, games, projects, parties, and musicales are important media of socialization. Of significant importance is cultivating from an early age ease in adjustment with the opposite sex. The history of adult epileptics all too frequently reveals that unfortunate courtship and marriage problems have been largely brought about by precipitous relationships taking root in feelings of heterosexual inferiority, which made for too rapid and poorly digested sexual and marital attitudes, habits, and relationships.

9. In the education of epileptic children, academic achievement is of secondary importance. Our primary and fundamental educational focus is upon the development of the total personality toward the goal of maturity. Intellectual life is merely a facet or phase of our concern. The mature personality is conceived as one effectively and happily socialized in the light of deeply integrated traits of self-reliance, self-direction, and self- and social-control.

10. An essential educational device is that of tailor-cutting a 24-hour schedule of interests and activities. Under guidance and day-by-day discussion of problems and plans, the program is made sufficiently plastic to meet the varying and ever-changing environmental and personality growth requirements. The pooling of pertinent information and its evaluation, with the help of various persons who intimately touch the life of the child, such as teachers, personnel director, house mother, and recreational director, leads to modifications of behavior and cultural patterns which take root from personal and social satisfactions. This leads to stabilization rooted in adequate habit training and feeling attitudes.

11. Conjoint planning with each pupil, with respect to the things he can and likes to do in the here and now, forms the starting point in the educational program. Opportunity for developing discrimination, with respect to choice and decision, will be important in cultivating feelings of adequacy in self-direction and in gaining facility with social relationships. It will also assist in nipping in the bud anti-social or asocial behavior.

12. We aim at developing a therapeutic technique in the light of critical and trained common sense which pays ultimate respect to the quality of realistic social pattern in which the child is assisted to effectively and harmoniously develop.

13. On the basis of diagnosis and evaluation of the facts and factors entering into the needs of what has to be done in bringing about an effective balance of individual assets and liabilities, tentative educational prescriptions may be written and prediction made of probable educational, social, and vocational outcomes. Skill, patience, and perseverance in the intimate study of environmental happenings and how the pupil reacts to them, especially his likes and attitudes toward various types of growth, are essential in understanding and constructively modifying the experiment of nature. Day-by-day scrutiny of notes about what others say about his performance is of inestimable value. This will give rise to psychiatric intelligence and psychotherapeutic implications to be capitalized in his 24-hour day of life happenings and opportunities. It is the 24-hour or total child, the child as a whole, that we must always keep in mind. The curricular and extra-class map and compass, which he learns to read and utilize under guidance and utilization of critical choice and decision, are the main educational tools. But these can not become galvanized without constructive interpersonality impacts between teacher and pupils. Flexibility of program, subject to change at any time should there be lack of satisfaction in expression and growth of personality needs, is essential.

14. Daily follow-up with critical weekly and monthly review of individual personality growth and adaptability is essential in order to keep in mind the individual in toto as a dynamic-genetic behaving organism. Methodology should respect the significant value of putting on paper facts, opinions, and tentative evaluations. Daily conferences with pupil, teachers, and personnel worker, as well as house staff, become the criteria of the workability and adequacy of individual planning. These also assist in recognizing early difficulties and furnish an opportunity for their nipping in the bud. Wrong or twisted viewpoints, misinformation and discussion of letters home at these conferences create opportunities for a preventive guidance program, as well as the recognition and utilization of the next steps to be taken in personality reconstruction. The interpretation of behavior and how the child is growing in his ability to handle difficulties are essential topics for discussion. Present health, academic status, results and probable outlook are also items to be scrutinized on such occasions.

15. Each epileptic should receive guidance in the building up of his ideology concerning his ego in the light of his sickness. Of particular moment is his reaction to the social evaluation of his personality, and particularly his seizures. We must be on our guard in the prevention of unwholesome mechanisms of defense springing up, such as escape, retaliation and hostility reactions. For example, "You can't punish me because I'm an epileptic." Recently an epileptic woman remarked, "He can't get away with it. I'll teach him that he's dealing this time with an epileptic."

16. Especially in areas of time closely related to seizures, the individual is apt to get lost in details which make for confusion and discouragement. Thus, deliberate learning with slowness in grasp of problems must be regarded as a symptom of the individual playing for more time in order to gain achievement. The epileptic child should not be "forced" in the educational process. He often requires a longer class period than the average child, and a flexible curriculum shaped to meet his individual and changing needs. Speed tests should be avoided, as they frequently give rise to anxiety and even panic reactions.

17. In order to avoid excessive daydreaming and seclusiveness, the epileptic needs stimulation with interests and activities within his range of ability to succeed. Although drill work is frequently required with respect to memory work, such as in some phases of arithmetic, yet mere repetition is undesirable for the epileptic of average intelligence.

18. In view of the fluctuations in grasp and comprehension status, there should be no forcing of the child to meet abrupt changes in his program. Directions and rules need to be carefully explained, as he frequently displays a lowering of retention and "slow-motion" understanding of relationships. In this connection, it is important to recognize the effect of sedatives in slowing up the association process. The teacher should be on the qui vive to observe petit mal attacks in the child, as they are easily overlooked. This may lead to unjust accusations of inattention and neglect, whereas the child may have missed certain words or even a sentence of the teacher's discussion during the attack.

19. In order to minimize and eradicate "conflict of difference," the epileptic child should be encouraged to lead as normal a social life as possible. Thus, keeping the child in his own social or life-age group is desirable. This also leads to the positive advantage of winning over the child's associates to a sympathetic, understanding, and helpful attitude in living with the handicapped child. "Bearing one another's infirmities" will, in time, become realistic rather than mere lip service to precept. Happiness is a by-product of adequate social adjustment and cooperation.

20. In view of the fact that emotional reactions of the epileptic child persist longer than in the

average child, adequate time must be given to their lifting or passing over. In this regard, the capitalization of rapport with parent and teacher will be instrumental in weathering impure affect currents.

21. Assist each child in emancipating himself from excessive parental or teacher solicitude and protection. Unwholesome emotional attachments to adults frequently lead to chronic invalidism and inability to become mature in personality reactions. Each child must be encouraged in learning to stand on his own feet in the light of his limitations. Constant discipline and a living up to rules and regulations, without nagging or being too strict, are essential in the socialization process. Good habit training, with respect to play, work, relaxation, rest, diet, elimination, and sleep, is essential.

22. Every child needs companionship and guidance in directing his energies into constructive channels, as well as in the prevention of emotional entanglements which make for seizures and personality maladjustments. Critical use of praise and favorable comment are much more desirable than negative measures. Recognize ego needs and create opportunities for showing off to advantage every child in the light of his abilities, interests, aptitudes, and socialization needs. This will be helpful in the development of self-confidence and self-dependence.

ALTHOUGH many of the above suggestions can only be adequately carried out in a private school which has 24-hour supervision of the child and with the assistance of trained personnel, yet, food for thought is given whereby physicians, teachers in public schools, parents, and various types of constructive public agencies may be of assistance in developing the total personality and educational welfare of individuals handicapped by convulsive disorders. Forearmed with fundamental knowledges and heuristic attitudes toward new and promising methods in the treatment of this type of personality reaction, we can embrace a hopeful animus in tackling this trying, but not insurmountable, problem of medicine and education.

214 STATE STREET.



COAGULATOR

—Concluded from page 368

tor. Thus, "burned" tissue is continually removed by the punch, so that current can be applied to the living cells in the layers beneath. This insures deeper penetration, and permits greater speed of operation.

A BRIEF résumé of three cases follows:

I. C.R. St. Catherine's Hospital. Age 65. First operation October 28, 1938. Actual cautery. Papillary adenocarcinoma, occupying posterior and lateral walls of rectum; four inches above sphincter; second operation June 6, 1939,

using punch-coagulator. Bowel lumen enlarged, area thoroughly coagulated.

II. J.P. St. Mary's Hospital. Age 59. First operation January 24, 1939. Actual cautery. Adenocarcinoma, type three, occupying posterior wall of rectum and part of lateral walls; three and one-half inches above sphincter; second operation, June 12, 1939, using punch-coagulator; lumen had shrunken to one-half inch diameter. Obstruction relieved, area coagulated, Radon seeds implanted.

III. E.C. Adelphi Hospital. Age 50. First operation February 15, 1939. Actual cautery. Adenocarcinoma, type two, occupying posterior and right lateral wall of rectum, two inches above sphincter; second operation, June 14, 1939, using punch coagulator.

80 HANSON PLACE.

SPECIAL ARTICLE

CLINICOPATHOLOGIC CONFERENCES OF THE LONG ISLAND COLLEGE OF MEDICINE

Case V— Clinical diagnosis of pathologic changes in the heart and aorta, when supported by roentgenological or electrocardiographic evidence, generally achieves a high average of accuracy. In the light of this generalization, the following case is of interest:

Conference of December 8, 1938 at the Hoagland Laboratory, Henry and Pacific Streets, Brooklyn, conducted by Dr. Tasker Howard, Professor of Medicine, and Dr. Jean Oliver, Professor of Pathology, the Long Island College of Medicine.

Case History

THE patient was a fifty-one-year-old Italian printer who was brought to the hospital October 18 in a state of semi-coma said to have been of an hour's duration. The day before admission the patient had been working overtime, when, while lifting a heavy mat to set it in the press, he experienced a sudden very severe substernal pain which radiated to the left shoulder, but apparently did not pass down the left arm. A sense of constriction followed the acute paroxysm and lasted about one hour, but the patient was able to go home, where he took some phenobarbital and whiskey and went to bed. There was no recurrence of the pain during the night, but one hour before admission to hospital, on leaving his bed to go to the bathroom, there had been a sudden recurrence of the pain and the patient had lost consciousness.

The only significant fact in the past history was that the patient had been a known hypertensive, with a systolic blood pressure above 200 when last taken, four years before entry. The only symptoms referable to this condition had

been slight exertional dyspnea and occasional headaches. There was no previous history of sudden pain or unconsciousness. There was no history of cardiac decompensation in the past.

Physical Findings

T 97.2° P unobtainable at wrist R17 BP unobtainable. The patient

was moderately obese. For the most part he was unable to respond, but there were periods during which he complained of pain over the base of the heart and in the right hypochondrium. The skin was pale and cold. There was profuse perspiration. The respiration was Cheyne-Stokes in character. The nail beds and lips were cyanotic. The pupils were equal and normal in size and they reacted normally to light. The fundi were not examined. There was some blood on the lips but no lacerations were seen. There were a few moist rales in either axilla. Expansion of the chest was equal on the two sides and breath sounds were normal. The heart was regular in rhythm. The PMI was felt in the fifth interspace just beyond the nipple line. The heart sounds were faint; the rate was 100. There were no murmurs nor other adventitious sounds. The liver edge was felt four finger-breadths below the costal margin. It was quite tender. There was slight abdominal distention. The deep reflexes were normal. There was no peripheral edema. The admission diagnosis was coronary occlusion.

Reported by Ernest E. Keet, Jr., M.D.

Laboratory Findings

BLOOD count: Hgb. 91% (14 gms. Haden-Hauser); RBC 5.48 millions, WBC 18,080; P 81%, L 16%; M 3%. Urine: Turbid, acid to litmus, sp. gr. 1.016, albumin present, sugar absent; granular casts and a few WBC and RBC found on microscopic examination.

Blood Chemistry (values in mgm%): sugar 209; urea N 35.1; urea 75.1; uric acid 6.3; creatinine 1.96.

Blood Kahn and Hinton: Negative.

Course in Hospital

PROMPT treatment for shock was instituted on the patient's admission and two hours after entry the blood pressure was recorded as 75/55, pulse 90.

On October 19, twenty-four hours after admission, the blood pressure was 100/80, the pulse rate 90. Temperature was now 100.6° and remained elevated until exitus. The patient continued to complain of pain in the abdomen and he never seemed to recover completely from the shock present on admission, frequent administrations of epinephrine being required to maintain normal blood pressure. On October 20 he was worse again and on October 21 he suddenly expired while relatives were at his bedside. The duration of the terminal episode was about a minute and a half. In this attack he choked, became blue, the eyes bulged, there was sudden accumulation of mucus in the throat and bleeding from the nose.

Two electrocardiograms were taken during the patient's hospital stay. The first of these, taken October 18, showed normal sinus rhythm. In lead III QRS was slurred, biphasic and of low amplitude. The second EKG, taken October 21, showed a ventricular rate of 140 and was interpreted as follows: 'Auricular fibrillation. QRS notched in lead III. T-waves inverted in lead I and of low voltage in II and III, indicating ventricular myocardial disease.'

Clinical Diagnosis

IN the discussion of clinical diagnosis, there was division of opinion as to whether the patient died from rupture of an aortic aneurysm or from coronary

disease. While the patient had been on the ward, physical signs of a dissecting aortic aneurysm had been searched for, but none had been found. One member of the staff at conference felt that this diagnosis was, however, justified on the data in hand. Another voted for a sacculated aneurysm with oozing into a bronchus. A majority of the staff, however, felt that severe chest pain, developing suddenly in an obese male of 51 with a previous history of hypertension, with subsequent arrhythmia and progressive EKG changes was evidence of coronary occlusion. A second occlusion was thought to have precipitated death.

Pathological Report

AT autopsy there was nothing of significance to be seen externally. There was no free fluid in the peritoneal or pleural cavities. As the mediastinal fat was dissected away the pericardium was seen as a smooth distended sac of a deep grayish-blue color. On opening it a large amount of fluid blood flowed from the incision and the heart was found to be cushioned in a fresh clot which separated heart and pericardium by a space of 4 cm. in width.

The heart weighed 625 grams. Scattered over the epicardium were many hemorrhages which became larger and more numerous in the region of the exit of the aorta. The various chambers and valves of the heart were normal. The coronary arteries though sclerotic were not occluded.

In the intima of the aorta immediately above the valves and extending throughout its entire length was severe atheromatous change. Two cm. above the superior margins of the aortic valves there was a transverse rent in the intima 1 cm. long and beneath this within the media of the aorta was a blood clot 2 cm. in thickness. Nine cm. below the summit of the arch there was another rent in the intima. A probe inserted into it could be passed upwards to reach the clot beneath the rent first described. Proceeding further within the split media toward the origin of the aorta a tear was found that passed through the remainder of the aortic wall so that a perforation 2 mm. in diameter opened into the pericardial sac.

Examination of the remaining viscera showed no abnormalities except a moderate sclerosis of the small arteries and calculi in the gallbladder.

Anatomical Diagnosis:

1. Hypertension (clinical).
2. Enlargement of heart, due to hypertrophy.
3. Arteriosclerosis, generalized.
4. Arteriolarsclerosis, generalized.
5. Aneurysm, dissecting — aorta.
6. Perforation of aneurysm into pericardial sac.
7. Hemorrhage into pericardial sac.

Discussion

CLINICAL differentiation between dissecting aneurysm of the aorta and coronary occlusion is difficult, because of the many common features. Common in both conditions is a history of hypertension and arteriosclerosis. Both result in shock and frequently lead to an early abrupt fatal termination. Either condition may occur without pain, while the patient is at rest. As this case demonstrates, the electrocardiogram may suggest coronary occlusion when none has occurred, so that fine clinical distinctions have unusual importance.

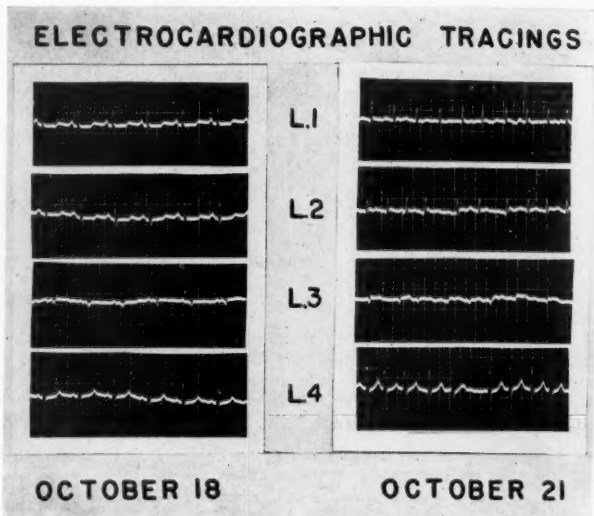
In considering differences between dissecting aneurysm and coronary occlusion, the abrupt onset of the one, after exertion, is in contrast with the more gradual onset of symptoms in coronary closure, with no constant relationship to effort.

Characteristic of dissecting aneurysm is a tearing pain, as if something within the chest had broken. The pain in coronary occlusion is usually described as a sense of constriction. In dissecting aneurysm the pain tends to radiate to

the back, rather than to the arm, and its segmental distribution may be higher or lower than that for pain of coronary artery origin. Syncope often occurs with onset in dissecting aneurysm, but it seldom accompanies coronary occlusion. In patients who survive the initial trauma, the course in dissecting aneurysm is characterized by a period of amelioration followed by sudden death when the aneurysm ruptures into the pericardial sac, pleura or mediastinum. The progress of the initial dissection may be revealed by a gamut of symptoms associated with occlusion, partial or complete, of various branches of the aorta. The development of a diastolic murmur in the aortic area which may also give a helpful clue to the true diagnosis.

Recent theories of pathogenesis of dissecting aneurysm emphasize the importance of lesions developing within the depths of the vessel wall. The rupture of tissues begins within the media and is accompanied by hemorrhage which dissects along the course of the vessel to ultimately perforate either into the aortic lumen or externally.

According to this explanation three perforations occurred in this case as the hemorrhage extended along the diseased



media; two into the lumen of the aorta and one, final and fatal, into the pericardial cavity.

Conclusions:

1. The clinical picture of dissecting

aneurysm of the aorta may resemble that of coronary occlusion.

2. The electrocardiographic record in dissecting aneurysm of the aorta may simulate that associated with coronary occlusion.

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Ernest A. Brooks

The death of a young physician before the end of the first decade of a highly promising career is a peculiarly poignant calamity. But aside from the shock and sense of personal loss felt by the colleagues of his immediate circle there is a formidable community trauma, for there is never any excess of men of first-rate training and high grade ability. Society suffers grievously through such deprivations. In making these remarks we have in mind Dr. Ernest A. Brooks, whose paper on ulcerative tonsillitis appeared in the Norwegian Hospital symposium of January 28 in our July issue, under the auspices of the Associated Physicians of Long Island.

*Life's race well run,
Life's work well done,
Life's victory won,
Now cometh rest.*



ENDOCRINE SYPHILIS

Personal opinion and the consensus of the literature is that, while the spirochete may attack and cause lesions in any of the endocrine structures, it very seldom does so.

—James H. Hutton, M.D.,
in *Urol. and Cutan. Review*, January, 1939.

EXTRAGENITAL SYPHILIS

The incidence of extragenital syphilis is high enough to demand the painstaking interest of every physician. Many patients presenting the late manifestations of the disease may have contracted it innocently.

—Roy S. Leadingham, M.D., F.A.C.S.,
in *Urol. and Cutan. Review*, January, 1939.



CHARLES WILLIAM HENNINGTON, B.S. (Rochester), M.D. (Hopkins), F.A.C.S., *German Literature Editor*, and EDWARD PARNALL, A.M. (Harvard), M.D. (Harvard), *Italian Literature Editor*.

Department Edited by John M. Swan, M.D. (Pennsylvania) F.A.C.P. EXECUTIVE SECRETARY, NEW YORK STATE COMMITTEE OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

[T is proposed to devote this paper to the defense of the following thesis:

The present experimental and haphazard use of endocrine or other symptomatic treatment for abnormal vaginal bleeding offers a definite check to the orderly and scientific study of the processes of disease, especially of malignant cell changes, and therefore is potentially dangerous to the patient.

Bleeding from the vagina is fundamentally normal or abnormal. It is necessary, in any consideration of this subject, to lay down the boundaries of normality as clearly as possible so that the double error of meddling with a normal process, or of overlooking an abnormal process, may be avoided.

Normal vaginal bleeding occurs in menstruation, and in the lochia rubra of the postpartum period, and under no other circumstances.

But menstruation, to be classed as normal, must conform within reasonable limits to certain average standards on five major points:

- (1) Age of onset.
- (2) Periodicity of appearance.
- (3) Amount of blood discharged.

- (4) Duration of bloody discharge.
- (5) Age of disappearance.

[F any woman's menstrual experience is materially at variance with the average standards on any of these five headings, her menstruation is abnormal.

She suffers from abnormal vaginal bleeding.

The natural conclusion, is, therefore, that vaginal bleeding is to be regarded as normal—entirely physiological—only when it conforms to rather narrow standards, and that the problem of abnormal vaginal bleeding is a large one, and one which, in view of the very limited knowledge available today, is most confusing.

The estimate of the security of the patient who presents abnormal vaginal bleeding is based, tritely enough, on the foundation of all scientific practice—an accurate diagnosis.

WHAT is the cause of the abnormal bleeding?

Unfortunately, in today's maze of terms—functional, organic, and the added mysteries of endocrine remote control, this accurate diagnosis is sometimes impossible.

Yet it is always possible to give first

NONOBSTETRIC ABNORMAL *Vaginal* BLEEDING

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Read before the Nassau Surgical Society and the Medical Society of the County of Nassau, at Mineola, November 29, 1938.

consideration to the more dangerous potentials, and only after eliminating these to the best of our ability is it safe to fall back on the term functional, which, in itself, implies that there exists no cellular change which may be progressive and eventually threaten the patient's life.

Even then, the accepted functional manifestation of today will almost surely be recognized as a definite cell lesion tomorrow, given perhaps a new staining method or a higher power microscope.

It may simplify the differentiation of the causes of abnormal vaginal bleeding to note one rather simple and yet significant fact; reducing the problem, in a sense, to one of quantitative estimation.

It is almost entirely true that all types of vaginal bleeding of organic cause—meaning by this, a cause definitely traceable to recognizable pathologic changes in the body, are “plus” changes from the accepted normal.

It is equally true that “minus” deviations from the standards rarely indicate serious cellular changes as we now recognize them.

In clarification of this statement, note that “plus” will include markedly precocious menstruation, prolonged menstruation, profuse menstruation, intermenstrual bleeding, and finally vaginal bleeding, whether menstrual or otherwise, continuing beyond the accepted period when the menopause should occur, or resumption of vaginal bleeding after the menopause, whatever the age.

Likewise “minus” will cover cases of delayed puberty, scanty or absent menstruation, long intermenstrual intervals and early menopause.

THESE distinctions are extremely practical. Vaginal bleeding on the “plus” side of the ledger may signal real danger whatever the age, and no assumption of a functional cause, and certainly no blind treatment of the symptoms, whether by endocrine or other means, is permissible. The cause must first be found, if possible.

On the other hand, rarely need there be alarm if the evidence is “minus.” Not that these patients should not be studied, and treated, if there be a treatment available. They may be very unhappy, worried, distressed—but almost surely they are not potential victims of neo-

plastic processes, benign or malignant.

This segregation of the pluses and the minuses may be found useful in a preliminary approach to the study of cases of abnormal vaginal bleeding. It will serve its purpose best if it helps to check the tendency to treat menorrhagia, metrorrhagia, postcoital bleeding and the “floodings” of the menopause by uncertain endocrine extracts, meanwhile often permitting a definite neoplastic process to progress beyond the point of salvage.

THERE are further criteria which help to divide cases of abnormal vaginal bleeding into classes of varying potentialities of danger.

Age is one. In general, the younger the patient, the less likely it is that she is suffering from a threatening disease. But it is urged that this question of age be given only definitely limited weight in diagnosis. A full-blown cancer of the cervix in a virgin of 19—a tumor of the ovary in a child—adrenal and pituitary neoplasms—anemia—congestive heart failure—purpura hemorrhagica, all these and more will trip up the conclusion that abnormal vaginal bleeding must be functional if the patient is young. However, age consideration should give increasing alarm as the patient nears the menopausal period.

Another helpful differential hint is reached by subdividing the “plus” group, again as to quantity. The patient who tells of “hemorrhages,” meaning large blood loss with large clots, is more likely to have benign neoplasm or an adnexal inflammation. But, she may also have cancer. Conversely, the patient who is intelligent enough to seek medical advice because of only slight intermenstrual bleeding (spotting after intercourse is most ominous) should have every diagnostic means used to eliminate cancer, which is the presumptive diagnosis in these cases.

THUS it develops that if a patient enters into the “plus” group, she is perhaps safer as a “four plus” than as a “one plus.” But this too is only a hint—nothing definite can be concluded from it alone.

Virginity, parity, adequacy of obstetric care, especially in the postpartum period, all play a part in pointing toward the probable lesion, but none may be per-

mitted to supplant the recognized methods of careful and complete diagnosis.

Because all vaginal bleeding, normal or abnormal, originates in the endometrium or cervix, (excluding, of course, vaginal trauma and the rare vaginal neoplasms), because the uterine cavity is closed to the palpating finger, and because as yet no practical "scope" allows its visual inspection, diagnostic curettage and cervical biopsy remain our only safeguards in clarifying the causes of "plus" vaginal bleeding.

But these methods may be inadequately applied. In the study of the normal endometrial cycle there have been developed methods of obtaining endometrial samples without the necessity of anesthesia and cervical dilatation. These serve well the purpose for which they are designed, because one bit of endometrium is as good as another to study the degree of proliferation which, normally, affects all areas of the endometrium simultaneously.

Not so if cancer is suspected. Nothing short of a thorough and systematic scrap-

ing of the entire uterine cavity can be trusted to catch cancer cells when they most certainly should be caught—when the process is still confined to a comparatively small area.

A WORD also as to cervical biopsy. Everything here depends on the ability to take the specimen from the right place—a high degree of experienced judgment is necessary to accomplish this.

It follows, then, that these two methods of precision in diagnosis are, in themselves, not too precise, but, skilfully and thoroughly done, they offer the best we have today.

To return to the introductory thesis—and conclude: The present experimental and haphazard use of endocrine or other symptomatic treatment for abnormal vaginal bleeding offers a definite check to the orderly and scientific study of the processes of disease, especially of malignant cell changes, and therefore is potentially dangerous to the patient.

131 FULTON AVENUE.



ROUTINE JUGULAR PRESSURE READINGS

—Concluded from page 360

3. Intracranial hydrodynamics; central nervous system shock and edema following rapid fluid decompression of ventriculo-subarachnoid spaces, (J. H. Masserman) *J. Nerv. & Ment. Dis.* 80:138-158, Aug., '34.
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30 EIGHTH AVENUE
39 PLAZA STREET



THE use of alcohol by man antedates recorded history. In very early records it is referred to as something already familiar in human experience.

The earliest known book, the *Ebers Papyrus*, written about 1500 B.C., contains many references to beer, and a few to wine. The following medical prescriptions, which include beer, are taken from that book:

"Remedy to clear out the body and get rid of excrement in the body of a person.

Berries of castor oil, one.

Chew and swallow down with beer."

And again, "If thou findest that his abdomen is swollen and that it comes and goes under the fingers, then say thou: 'the fault lies in the digestion of his food.' At first do not let him eat. Prepare a medical purge for him.

Refuse of beer.

Dissolve in flat beer."

THE Ebers Papyrus recommends, according to Bryan, for regulating menstruation, a douche of garlic and wine; and if that fails, a douche of fennel wonderfruit, honey and sweet beer.

In the Old Testament we read how Ziba, meeting King David, presented him

Read before the section, on Medical History of the Kings County Medical Society, October 14, 1938.

MEDICAL TIMES, AUGUST, 1939

with a bottle of "wine, that such as be faint in the wilderness, may drink."

In King Solomon's collection of proverbs, there is one which says: "Give strong drink unto him that is ready to perish, and wine to those that be heavy of heart." Solomon also uttered this warning: "It is not for kings—to drink wine—lest they drink and forget the law and pervert the judgment."

Xenophon, writing in the fifth century before Christ, refers to a curious statement of Homer, which he interprets as suggesting the "life saver." He says: "Homer says somewhere that an onion

relishes well with a bottle." And Xenophon goes on to say that one eating an onion "would willingly go home with the scent of an onion on his mouth that his wife may not be jealous."

NOTES ON THE USE OF *Alcohol* IN ANCIENT TIMES

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drink their wine diluted with water. I found in one of Aristophanes' plays a reference to the standard proportions of this mixture in common use, viz.: three parts of water to two of wine. Herodotus tells how King Cleomenes of Sparta became insane and carved himself up fantastically with a knife, so that he died. His countrymen refused to accept

THE ancient Greeks were accustomed to

the proffered explanation of a divine visitation, being convinced that his unfortunate mental state was due to his "habit of drinking wine unmixed with water," which habit he had learned from some Scythian ambassadors who came to Sparta, and with whom he had been chummy.

Plato bears testimony to the correct attitude of the medicine of his day toward intemperance. He says: "The science of medicine teaches us that drunkenness is very pernicious."

Hippocrates included wine in his therapeutic armamentarium. He gave wine in fevers, and used it as a wet dressing in ulcers.

| WILL end these few notes with an account of Confucius' diet, which in-

cluded wine. This account is taken from the Confucian *Analects*.

"He did not like to have his rice finely cleaned, nor to have his meat cut quite small. He did not eat rice which had been injured by heat or damp and turned sour; nor fish or flesh which was gone. He did not eat what was discolored, or what was of bad flavor, nor anything which was not in season. He did not eat meat which was not cut properly, nor what was served without its proper sauce. Though there might be a large quantity of meat, he would not allow what he took to exceed the due allowances for the rice. It was only in wine that he laid down no limit for himself, but he did not allow himself to be confused by it."

1218 PACIFIC STREET.



MANAGEMENT OF SYPHILIS

Combined artificial fever and chemotherapy is superior to chemotherapy alone in the treatment of all stages of syphilis.

—Kenneth Phillips, M.D., and
A. Bulst Litterer, M.D.,
in *Urol. and Cutan. Review*, January, 1939.

SYPHILIS FROM AN INTERNIST'S STANDPOINT

1. Syphilis may be present without history of initial lesion or definite clinical manifestations (this is especially true in women).
2. A negative Wassermann reaction does not necessarily rule out active syphilis which may include vascular syphilis, neurosyphilis or any other form of syphilis; therefore the test should be used only as one of the signs of syphilis.
3. Most so-called soft chancres are hard chancres and a gonorrheal infection may obscure a co-existing syphilitic infection.
4. The fixed pupil can practically mean only one thing and that is cerebral syphilis (with the possible exception of encephalitis).
5. The tendency in the so-called Wassermann-fast case is to treat the test rather than the patient.
6. A negative blood and a negative cerebrospinal fluid does not necessarily rule out cerebrospinal syphilis.

—Willard C. Stoner, M.D.,
in *Urol. and Cutan. Review*, January, 1939.

TABES DORSALIS AND VITAMIN B DEFICIENCY

Tabes dorsalis has been benefited by preparatory vitamin B therapy. The sensory disturbances including vision have regressed under subsequent anti-luetic treatment.

CONTEMPORARY PROGRESS

Uterine Bleeding in the Last Trimester of Pregnancy

J. T. WALLACE (*Brooklyn Hospital Journal*, 1:115, Apr. 1939) reports that in the ten year period 1928 to 1937 inclusive, there were 70 cases of uterine bleeding in the last trimester of pregnancy in 10,217 deliveries, a low incidence of 1 to 146 deliveries. In this series of cases, premature separation of the normally implanted placenta occurred much more frequently than placenta praevia (55 cases of premature separation to 15 cases of placenta praevia). In the 55 cases of premature separation the bleeding was not associated with pain in 27 cases; thus painless vaginal bleeding is not necessarily indicative of placenta praevia, for in this series painless bleeding was due to premature separation of the placenta in 27 out of 41 cases or 60.6 per cent. The author advocates vaginal examination to differentiate between placenta praevia and premature separation, as the latter is not an indication for cesarean section. Better results in this condition are obtained in his experience with rupture of the membranes and application of a tight abdominal binder.

COMMENT

Uterine bleeding at any stage of pregnancy is alarming; during the last trimester it is potentially or actually dangerous. Any study, therefore, that stresses diagnostic or therapeutic measures is commendable. While spontaneous, painless, causeless hemorrhage in the last trimester of pregnancy may not always be placenta praevia,

it usually is and a definite diagnosis is called for. Vaginal examination should always be done, of course, under proper precautions, in any case of vaginal bleeding during pregnancy. Accurate diagnosis must precede intelligent treatment and without a pelvic examination no accurate diagnosis can be made. On the other hand, it should be remembered that it is very dangerous, in some cases, to make a vaginal examination in the presence of placenta praevia and therefore proper preparations for controlling the hemorrhage in case it "happens" should always be made. The x-ray diagnosis of placenta praevia does not suffice. It is not sufficiently accurate. Cesarean section is rarely indicated in ablatio placentae but is the method of choice in a goodly proportion of placenta previas.

Remember: accuracy in diagnosis is the first step in proper treatment—surgical or medical.

H. B. M.

OBSTETRICS

The Pathology of Obstetric Shock

H. L. SHEEHAN of the Glasgow (Scotland) Maternity Hospital (*Journal of Obstetrics and Gynaecology of the British Empire*, 46:218, Apr. 1939) presents a study of fatal cases of obstetric shock that have come to autopsy at the Hospital in the last five and a half years. Death was considered to be due to obstetric shock if the patient died with the clinical symptoms of shock during labor or within twenty-four hours after delivery. Cases are excluded in which the anesthetic or a severe hemorrhage was the essential cause of death. In the cases included in this series, the cause of shock was dystocia in 29 cases, rup-

tured uterus in 13 cases, retained placenta in 21 cases, uncomplicated cesarean section in 4 cases, complicating diseases in 8 cases (in 4 of these there was hypertension). In 13 cases of ruptured uterus, the rupture was discovered only at autopsy in several instances; there was always some hemorrhage in these cases, but it was severe in only 4 cases, and even in these cases shock was considered to be the essential cause of death. Dystocia was the most common cause of shock in this series (29 cases) as noted. At autopsy, no obvious "pooling of blood" in the abdominal viscera, muscles of the thigh or large veins was found in any case. One of the commonest findings was subendocardial hemorrhages on the left of the interventricular septum; but these hemorrhages were rare unless the shock had lasted more than two or three hours; they were found in over a third of the author's cases. The condition of the lungs was found to depend on whether or not hemorrhage had occurred and the time of survival. If shock comes on after a single hemorrhage there is a tendency to dry, anemic lungs; if shock follows a series of hemorrhages, the lungs are congested and edematous. If there has been no hemorrhage and the patient dies during delivery or one to two hours after delivery, the lungs are usually congested and edematous; if death occurs more than four hours after delivery, the lungs are usually dry and anemic. The appearance of the uterus depended on the clinical condition—rupture, retroplacental clot, etc. In the cases of dystocia the uterus was usually not well retracted and in 2 cases of late

shock, there was necrosis of the uterine wall. Hemorrhages into the ovaries were sometimes seen—including these 2 cases of uterine necrosis. Patients surviving obstetric shock for more than twelve or fourteen hours usually show necrosis of the anterior lobe of the pituitary gland; there is probably some functional disturbance of the anterior lobe before the necrosis can be demonstrated. No specific lesions were found in the adrenals or brain in these cases of obstetric shock.

COMMENT

Obstetric shock is no different from any other type of shock—i.e., surgical, medical, traumatic, chemical. "Shock is shock" and its etiology does not alter the picture. For example, the shock following rupture of the uterus is identical with that after rupture of the stomach, but the pathological lesion causing the shock is, of course, different. Likewise, the shock following a severe burn gives the same picture of shock as that following high fever due to toxemia.

The author's observations on the pathology causing shock in his obstetric service at the Glasgow Maternity Hospital are worthy of serious thought. More of this type of investigation should be done in our maternity wards.

H. B. M.

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Do Eclampsia and Pre-Eclampsia Cause Permanent Vascular Renal Pathology?

W. J. DIECKMANN and I. BROWN (*American Journal of Obstetrics and Gynecology*, 37:762, May 1939) note that in the last five years they have classified the toxemias of pregnancy as eclampsia, pre-eclampsia, essential hypertension

and vascular renal disease; and have demonstrated "distinct differences" between these various groups in regard to age and parity of the patient, time of onset of the toxemia, clinical syndromes, and fetal mortality. In a follow-up study of patients who had had eclampsia or non-convulsive toxemia during one pregnancy, the authors find that: In patients who have had eclampsia, subsequent pregnancies are normal in 40 per cent, but complicated by a recurrence or exacerbation of hypertension, edema or albuminuria in 40 per cent; less than 10 per cent show a recurrence of eclampsia. Over 37 per cent of the patients had vascular renal disease, as indicated usually by hypertension. No evidence of chronic glomerulonephritis was found in any of the eclamptic patients. In non-convulsive toxemia of pregnancy (pre-eclampsia), subsequent pregnancies will be normal in at least 30 per cent and probably 40 per cent of the cases; but complicated by a recurrence or exacerbation of hypertension, edema or albuminuria in 50 to 70 per cent. Over 40 per cent of the patients had vascular renal disease, as shown by hypertension; the urea clearance test showed renal impairment in only 2 per cent; glomerulonephritis was present in 0.5 per cent. The authors are of the opinion that true eclampsia and pre-eclampsia do not cause permanent vascular or renal damage; and that if such damage occurs either the toxemia was not eclampsia or pre-eclampsia, or these conditions were superimposed on a predisposition to hypertensive arterial disease. Eclampsia and pre-eclampsia, the authors note, are diseases peculiar to pregnancy and rarely occur without premonitory signs; they may recur, but such recurrence suggests the presence of vascular renal disease.

COMMENT

The toxemias of pregnancy still account for about 20 per cent of our maternal mortality. Up to the present, we know very little about the actual cause of eclampsia and pre-eclampsia and hence we must rely on the clinical data thus far assembled in our attempts toward assigning etiology. Such studies as the authors herewith present are very helpful, at least in prognosis if not in diagnosis. After all, the patient must look to her physician for prognosis, no less than

diagnosis, excepting that one is not usually held in contempt for prognosis (it's in the future) whereas in diagnosis one is apt to be censured immediately—for it's today that a mistake in diagnosis comes to light.

Your commentator believes, with the authors, that "Simon pure" eclampsia and pre-eclampsia are diseases peculiar to pregnancy and do not recur unless there is some intervening cardiovascular renal involvement. Do not hesitate to instruct your patients in this respect. You'll usually be right!

H. B. M.

Management of Breech Deliveries In Primiparas

T. R. GOETHALS (*American Journal of Obstetrics and Gynecology*, 37:663, Apr. 1939), from an analysis of 500 pelvic deliveries and 32 cesarean sections in normal primiparous women at the Boston Lying-In Hospital, concludes that the management of breech presentation in primiparas "resolves itself primarily into an estimate of the relative advisability of abdominal section versus delivery through the pelvis." Minor degrees of pelvic contraction are of more importance as an indication for cesarean section than in normal presentation as the test of labor is "of no value for the aftercoming head." The size of the infant in utero must also be considered; this is best determined by x-ray measurements. The x-ray is of value in any case in which cesarean section is contemplated not only "to confirm and control" the findings in regard to the size of the infant, but also to detect gross skeletal abnormalities not found by clinical examination. In the cases in the author's series in which cesarean section was done the chief indications were contracted pelvis, age of the mother (primiparas over forty) and estimated large babies. If pelvic delivery is chosen as the best method "the second stage of labor should be terminated by breech extraction under full anesthesia before the birth of the umbilicus, as classically recommended, has occurred."

COMMENT

Your commentator can agree with the author's management of breech presentation and delivery until it reaches the point where "the second stage of labor should be

terminated by breech extraction" after full dilatation is accomplished. At this stage, our results have been far better where we allowed the labor to proceed in the normal manner without assistance until the umbilicus was born and then "helped the head" through the pelvis.

Unless there is an indication, why interfere with a breech any more than a vertex? We have seen a good many normal breech deliveries. We have also done many extractions—on indication. Be conservative—particularly in home deliveries—for lots of time and some morphine will usually lead to a successful delivery—provided you "know your pelvis."

H. B. M.

Induced Hyperglycemia at Delivery

R. C. KETTERINGHAM and B. R. AUSTIN (*American Journal of Obstetrics and Gynecology*, 37:1000, June 1939) note that at the Maternity Hospital of Cleveland, Ohio, it has been the custom to "fortify" the patient after a prolonged labor by the intravenous administration of 10 per cent dextrose solution just before delivery. A study of the blood sugar changes in the mother and newborn infant was made after 500 c.c. of a 10 per cent. dextrose solution had been given intravenously at a rate of 30 to 40 c.c. per minute in the second stage of labor. It was found that maternal blood sugar values reach 400 to 500 mg. per 100 c.c. just after dextrose is given and fall to normal postpartum levels in three to four hours. The blood sugar of newborn infants when dextrose had been given the mother before delivery ranged from 192 to 267 mg. per 100 c.c. with a mean value of 223. A rapid fall in these blood sugar values occurred resulting in a hypoglycemia, which was followed by a slight rise. These findings indicate that it is possible to "fortify" not only the mother but also the premature infant or the infant of the toxemic mother by administration of dextrose before delivery, but the effects last only a few hours. "Promiscuous" use of this method seems undesirable, as it may add considerable strain to the newborn infant in its adjustment to a new environment. The mother could be strengthened without such strain on the infant metabolism by giving dextrose earlier in labor at a physiologic rate,

provided that the additional fluid load would be harmless. The most important clinical application of these findings the authors believe to be in the care of infants of diabetic mothers. In such infants blood sugar determinations on capillary blood should be made as soon as possible after birth and as often as practical for the first few hours. At the first indication of hypoglycemia 10 per cent dextrose should be given subcutaneously in doses of 10 c.c. per kg. body weight; if this dosage is repeated, the intervals should be at least three hours and preferably longer, and as soon as possible oral feedings should be substituted. This treatment is designed to prevent hypoglycemia and to stimulate, but not exhaust, the pancreas and liver of the infants of diabetic patients.



COMMENT

Dextrose has been called a "universal" therapeutic agent because it is indicated in such a wide variety of pathological conditions. Certainly the tired, exhausted and dehydrated parturient needs food and water and that is just what she gets in intravenous dextrose and in its best and most easily assimilable form. Dextrose is a monosaccharide and is therefore taken up immediately by the liver and by myocardial and skeletal muscle tissue of the body and stored up or utilized as glycogen. The beneficial effect is almost instantaneous. The patient is always grateful. The physician, however, should always be on the alert and use intravenous dextrose as a prophylactic measure where the patient cannot take water or food.

Remember! the "travail of labor" is hard work; hard work requires much energy; and to furnish this energy the parturient must have food and water. Therefore "feed and water" the patient or give dextrose intravenously. This will "fortify" both mother and baby against the hazards of delivery—spontaneous or operative.

In diabetic mothers the physician must recognize the possibility of hypoglycemia in the infant and begin the administration of dextrose immediately this condition shows up. No doubt some of us have wondered why we lost such babies. A good point to remember!

H. B. M.



Studies on the Endometrium in the Normal Menstrual Cycle, Ovarian Dysfunction and Cancer of the Uterus

W. E. HERRELL (*American Journal of Obstetrics and Gynecology*, 37:559, Apr. 1939) presents a study of 241 endometrial specimens removed either at dilatation and curettage or by means of the Randall instrument for uterine biopsy. On the basis of the findings in these cases the author concludes that "the activity of the ovary is reflected in the activity of the endometrium." He finds that in the normal menstrual cycle the endometrium shows five phases; a menstruating phase, a phase of early proliferation, a phase of late proliferation, a phase of early differentiation, and a phase of late differentiation. The four last phases "correspond roughly" to the four weeks of the normal menstrual cycle "in the order named." When there is ovarian dysfunction this is reflected in arrest of the cycle in any of the phases named; this phase of arrest is called the persistent phase; the stage at which arrest occurs depends upon the degree and type of ovarian dysfunction. Ovarian dysfunction may be primary or secondary to thyroid or pituitary dysfunction, but the changes in the endometrium are the same, as this "reflects only the activity of the ovary." The author has found that a study of the cystic changes at different phases makes it possible to distinguish between sterility and bleeding dysfunction. If cystic changes occur in the proliferative phase of the cycle, the tendency is toward bleeding; when the cystic changes occur in the differentiative phases, the tendency is toward sterility, while bleeding is rare. In a study of the endometrium associated with carcinoma of the body of the uterus, it was found that carci-

noma occurs practically always in the proliferative type of endometrium in which there is usually cystic change. This endometrium is characteristic of the unopposed action of folliculin and failure of activity of the corpus luteum. Even when carcinoma of the body of the uterus occurs in the preclimacteric state, the endometrium is usually of the proliferative type with rarely any evidence of differentiation or corpus luteum activity. The ovaries associated with functional carcinoma contain "cystic portions" probably the source of the estrin in at least 90 per cent of the cases of carcinoma.

COMMENT

Within the past few years there have appeared many articles dealing with various normal and abnormal changes in the endometrium. These studies have brought to our attention many new facts, particularly as to how changes in the endometrium are related to sterility, bleeding dysfunction and cancer of the uterus. It is possible that a final solution of the first two of these problems (sterility and bleeding dysfunction) may well lie in a more intimate knowledge of the various changes in the endometrium. In the case of cancer such knowledge might lead to earlier diagnosis—even of the pre-cancerous stage—when complete eradication would be certain. Let us have more such studies!

H. B. M.

Low-Dosage Irradiation of the Pituitary Gland and Ovaries in Functional Menstrual Disorders and Sterility

C. MAZER and G. BAER (*American Journal of Obstetrics and Gynecology*, 37:1015, June 1939) report the use of low-dosage irradiation of the pituitary gland and ovaries in 178 cases of functional menstrual disorders. Of these 106 had amenorrhea or oligomenorrhea, 3 had normal rhythm but a scanty flow, 26 had menorrhagia and 18 metrorrhagia; in the remaining 25 cases, the menstrual rhythm was normal but irradiation was done because of sterility, dysmenorrhea, premenstrual tension or migraine. Of the 5 cases of primary amenorrhea, menstruation was established in only one case; but in 61 cases of severe secondary

amenorrhea, the treatment was successful in 33 (54 per cent); and in 40 cases of oligomenorrhea 28, or 70 per cent, were cured. In 3 cases of hypomenorrhea, the treatment was without effect. Of 26 cases of menorrhagia, 15 or 57 per cent were completely relieved; and 89 per cent (16) of 18 patients with metrorrhagia were cured. In the group with menorrhagia, it is noted that none became amenorrheic as a result of the treatment. While in cases with functional menstrual disorders, the low-dosage irradiation was "highly effective" in relieving an associated sterility, in 17 cases of sterility in women with normal menstrual rhythm, the treatment was successful in only 4 cases. In the group with normal menstrual rhythm, dysmenorrhea was relieved by the irradiation in 2 of 4 cases; premenstrual tension in 2 of 3 cases; and premenstrual migraine in one of 2 cases. In one of the cases with normal menstrual rhythm the treatment caused a temporary amenorrhea, but this patient had previously shown a tendency to amenorrhea; in the others of this group, the menstrual rhythm was not disturbed. The technique of irradiation used has been previously described by Mazar and his associates; the essential factors are 135 kv., 5 ma., at a distance of 40 cm. with 6 mm. aluminum filtration. For irradiation of the ovary, the rays are directed over the anterior pelvic area; the dosage at each treatment is 60 to 90 r.; this is repeated three times at intervals of one week, giving about 10 per cent of a full skin erythema dose to the ovaries; the pituitary is treated with the same dosage and factors simultaneously.

COMMENT

In the past, low-dosage irradiation of the pituitary gland and ovaries has had its "ups and downs." Fear, both of physician and patient, has been largely accountable for this state of affairs. The physician was fearful lest permanent amenorrhea might result and thus make him liable for damages in the courts of law. The patient was fearful because of the "advice of a friend" or the thought of cancer. Irradiation still means cancer to many laymen. Notwithstanding all adverse criticism, low-dosage irradiation of the pituitary and ovaries for functional menstrual disorders, when properly admin-

istered to well chosen cases, has gained for itself a permanent place in the therapeutic armamentarium of every up-to-date gynecologist and roentgenologist.

From personal experience in a limited number of cases, we believe it has no deleterious effects, except those pointed out by the authors in certain amenorrheas, and that it gives as good results—oftentimes better—as any other method of treatment. Don't be afraid to try it but be sure of the "dosage" employed.

H. B. M.

Extensive Conization of the Cervix

R. J. CROSSEN and G. J. L. WULFF (*American Journal of Obstetrics and Gynecology*, 37:849, May 1939) report 312 cases of endocervicitis in which extensive conization of the cervix was done by means of a special electrode with the cutting current. The electrode used was modified by the senior author (R. J. Crossen) from the instrument designed by Mortimer Hyams (1927) in order to effect more extensive conization than was possible with the original (Hyams) instrument. Before use in this series, the electrode was further modified to increase its durability by the substitution of a brass tube covered with rubber insulating material instead of the "fragile silicon central core" of the original instrument. In the series of 312 cases treated, the Sturmdorf suture was used in combination with conization in 98 cases; from their experience in these cases the authors conclude that sutures should be used in every case in which there is a good deal of eversion and wide conization is done, whether there is bleeding at the time of operation or not; also when there is bleeding at the time of conization; and when radium or a stem pessary is employed. With the use of sutures, conization can be done with good results in cases with more extensive endocervicitis in which the Sturmdorf operation was formerly considered necessary. There were 17 cases in which bleeding occurred after conization; in 9 of these no sutures were employed. In 3 of these cases conization was done in the premenstrual period; hence the authors now carry out extensive conization only in the postmenstrual period in order to allow three weeks for healing before

the next menstruation. In all but 3 of these cases the bleeding was controlled by packing; in 3 cases secondary suture was necessary. As a rule when sutures were employed after conization, a Dakin tube was left in the cervical canal until the patient was discharged from the hospital. The only case in which stricture occurred in this series was one in which the Dakin tube was not employed after suture. The authors are of the opinion that strictures should not occur after conization if deep coagulation is avoided; it is better to suture when there is bleeding after conization than to coagulate. There have been 15 pregnancies in 12 patients since conization was done; in this group 7 abortions or miscarriages (six weeks to seven months) have occurred; in one case the patient was syphilitic and in another diabetic; 3 patients were pregnant at the time of the report; and 5 had normal easy deliveries at term. The authors note also that 2 unsuspected carcinomas were found in this series; and in 2 other cases in which carcinoma had been suspected, the diagnosis was confirmed.

COMMENT

That conization following the technic of Mortimer Hyams is an excellent method in the treatment of chronic endocervicitis admits of no argument. That extensive conization following the technic of Crossen and Wulff is as good as the Hyams method and better than the Sturmdorf operation is open for debate. From a fairly extensive experience with the use of the small nasal type cautery we believe the cautery method, properly employed, is just as good as the Hyams method and superior to the Crossen and Wulff method, since the latter method is too extensive for all cases, save those in which the Sturmdorf method is indicated. We furthermore believe (1) that any conization operation that requires hospitalization had best have a Sturmdorf operation; (2) any conization operation that requires suturing or packing for control of bleeding or for inversion of mucous membrane flap to cover denuded areas had best have a Sturmdorf performed. Hyams' conization and cauterization are office procedures and never require suturing, stem pessaries or Dakin tube to prevent bleeding and/or stricture. Extensive conization with Sturmdorf sutures has no advantage over the Sturmdorf operation, since the latter fulfills every surgical principle. The operator who has stricture

after a Sturmdorf operation simply needs more experience in performing the operation; likewise if hemorrhage occurs.

There is a place for conization, the cautery method and the Sturmdorf operation and the success of any of these methods depends upon the selection of the case; the choice of the method most applicable to the case; and the experience of the operator. Do not forget—Hyams' conization and cautery are office procedures. Extensive conization by the method of Crossen and Wulff and the Sturmdorf operation are hospital procedures. One must choose the operation that fits the case. This principle holds true in all surgical procedures.

H. B. M.

Cervical Stump Carcinoma

M. E. BLACK (*Surgery, Gynecology and Obstetrics*, 68:898, May 1939) reports 234 cases of carcinoma of the cervix treated at the University Hospitals of the Western Reserve University. In 19 or 8.1 per cent of these cases a supracervical hysterectomy had been done, and the carcinoma had developed in the cervical stump. Ten of these patients developed the cervical cancer from two to four years after the hysterectomy; in 5 cases the cancer occurred eight to ten years after operation; in 4 cases twenty or more years after operation. As in all instances over two years elapsed between the supracervical hysterectomy and the diagnosis of carcinoma of the cervix, "it is reasonable to believe" that the carcinoma was not present at the time of the operation. The average age of the 19 patients with cervical stump cancer was forty-nine years—the same as for the entire series of 234 cases of carcinoma of the cervix. In only 2 cases the carcinoma was of class 4 A (limited to the cervix); 10 were classified as 4 B and 4 C (extension to the vaginal wall and involving the broad ligaments); 4 were of class 4 D (wide fixation); in 3 cases the growth was not classified. The carcinoma was of the squamous cell type in 17 cases (89.4 per cent) and adenocarcinoma in 2 cases. When a subtotal hysterectomy is contemplated, it is important to make a careful preoperative examination of the cervix. When such an operation has been done, the patient should be kept under observation and the

cervix examined at regular intervals, making use of all modern methods—the colposcope, the iodine test, as advocated by Schiller, followed by biopsy of any suspicious tissue.

COMMENT

That cervical stump cancer is a real hazard there can be no question. That any experienced gynecological surgeon should leave a cervix upon which a cancer is likely to develop is contrary to good common sense. There are several ways of getting rid of the cervix—(1) by complete abdominal hysterectomy; (2) by vaginal hysterectomy; (3) by complete cauterization (conization

with the actual cautery) of the cervix through the vagina followed by supra-cervical hysterectomy with conization from above, thus leaving merely a "shell of cervix" with no residual epithelium or infection. We have used one of the above methods in all hysterectomies for 20 years and, so far as we know, have had no case of cervical stump cancer occur in a very large number of hysterectomies (several hundred). There is no excuse for leaving the stump of any cervix in toto, except perhaps occasionally as a time-saving precaution in a very desperate case. As a prophylactic measure against cancer, there can be nothing better than eradication of all possible sites for its development.

H. B. M.



Sulfanilamide in Otitis Media and Orogenous Infections

G. E. FISHER (*Journal American Medical Association*, 112:2271, June 3, 1939) reports the treatment of 88 cases of otitis media due to the beta hemolytic streptococcus with sulfanilamide in comparison with a similar group not given sulfanilamide. The number given sulfanilamide and the control group were about equally divided throughout the year, so as to avoid seasonal differences. In both groups a red, protruding tympanic membrane was incised early in the course of the disease, or, if the membrane ruptured spontaneously, the opening was enlarged to secure adequate drainage. Many of these patients were treated in the outpatient department. In all cases given sulfanilamide, the drug was given by mouth with an equal amount of sodium bicarbonate. If the patient was seen daily, a safe dose was found to be 10 gr. (0.65 gm.) three times a day for

the first four days and 5 gr. (0.3 gm.) three times a day thereafter. If the patient was in the hospital and under close observation, and the infection was of a severe type, the dosage could be increased for a limited period to 20 gr. (1.3 gm.) per kg. body weight for both adults and children. Most patients are cyanotic when taking adequate doses of sulfanilamide; this is not a sign of toxicity. The toxic symptoms that should be looked for are: increasing weakness and lassitude; loss of appetite; nausea and vomiting; and fever which decreases when the drug is withdrawn and increases when it is begun again; a progressive fall in hemoglobin; dermatitis, especially of the exfoliative type; severe hemolysis with jaundice; agranulocytosis. If any of these more severe complications develop (the last four named), the drug must be discontinued; with the less severe symptoms of intolerance, reduction of dosage may first be tried. Of the 88 patients who were given sulfanilamide in this series and who also had a paracentesis, only 7 required a mastoid operation, and none had septicemia. Of the 95 controls who had a paracentesis but were not given sulfanilamide, 66 required a mastoid operation and 4 developed septicemia (with one death). The average duration of otorrhea in the 88 patients given sulfanilamide was

twenty-three days; the average duration of otorrhea in the 95 controls was sixty-five days.

J. L. MAYBAUM and his associates at Mt. Sinai Hospital, New York (*Journal American Medical Association*, 112: 2589, June 24, 1939), however, are opposed to the "indiscriminate administration" of sulfanilamide in minor infections of the upper respiratory tract and ear, many of which run a self-limited course. At present they employ the drug only in otitic complications. They note that sulfanilamide may be given in cases of otitis media before suppuration has taken place, but they have not sufficient experience in this use of the drug to judge its value. They are of the opinion that the patients so treated should be kept under observation for a considerable period, as they have found that sulfanilamide may mask the symptoms and prolong the course of a persisting otitic infection. They advise against giving the drug during the period of observation for a suspected mastoiditis, sinus thrombosis, petrositis, etc. because of this risk of "masking" the clinical picture. In the presence of an impending otitic meningitis, or when the diagnosis of lateral sinus thrombosis or petrositis has been established, sulfanilamide is indicated and is of definite value, but it should be combined with surgical extirpation of the otitic focus. Illustrative cases are reported showing the masking of symptoms when sulfanilamide was given early in the course of otitis media.

Nicotinic Acid and the Eighth Nerve

G. SELFRIDGE (*Annals of Otolaryngology and Rhinology*, 48:39, March 1939) notes that nicotine acid has been recognized as one of the factors of the vitamin B₃ complex which is effective in the treatment of pellagra. The "filtrate factors" of the vitamin B complex, from which B₁ (thiamin N.N.R.) and riboflavin (a B₂ factor) have been removed, contain nicotinic acid. Studies with the different fractions of the B complex made by Covell showed that lack of these filtrate factors causes dermatitis in chicks and also a greater amount of degeneration in the eighth nerve than

is found in B₃ deficient rats. Chicks on a recovery diet for several weeks showed areas of regeneration in the eighth nerve. In using various factors of the B complex in the treatment of patients with evidence of nerve deafness, the author has observed more rapid improvement when nicotinic acid was given than with B₁ or riboflavin. For successful treatment, dietary errors must be corrected in addition to the administration of the special vitamin factor. In the past nine months, the author has treated some 30 cases of nerve deafness with nicotinic acid, nicotinamide and, more recently, sodium nicotinate. In all these cases the audiometer showed "a gradual decline in the tone scale" (loss of hearing for high tones); the ages of the patients ranged from twenty-one to seventy-seven years. As a rule the nicotinic acid preparations were given by mouth but occasionally the amide was given parenterally. The dosage of nicotinic acid was usually 60 mgm. three times daily. In many of these cases the improvement in hearing was very definite; in others although the improvement in the audiometric curve was not marked, there was a marked general improvement, both physical and mental.

Treatment of Deafness with Prostigmine

T. C. DAVIS and J. C. ROMMEL (*Archives of Otolaryngology*, 29:751, May 1939) report the treatment of deafness with prostigmine; the best results were obtained when the 1:2000 solution of prostigmine methylsulfate was used by hypodermic injection. Injections of 1 c.c. each were given at weekly and at three day intervals, usually the latter. The oral administration of prostigmine tablets was tried, but had no definite effect on the hearing. Prostigmine was used in 28 cases of acute blocking of the Eustachian tube with tinnitus aurium and deafness. Most of these patients were entirely relieved of symptoms and normal hearing restored by five injections. Catheterization of the Eustachian tube and massage was carried out in all but 2 of these cases. In these 2 cases in which the condition was of one week's

duration, all tinnitus disappeared after three and four injections of prostigmine respectively. Prostigmine has also been employed in 24 cases of chronic deafness and tinnitus; in most of these cases hearing was definitely improved and tinnitus completely or greatly relieved. In chronic cases treatment should be continued "indefinitely" the authors believe, as progress may be slow. In some of the cases treated improvement was finally obtained by persevering with the treatment "when hope seemed to have fled." In chronic cases such conditions as sinusitis, Eustachian tubal catarrh and nasal obstruction must be treated in order to prevent relapses. Prostigmine was not given in sufficiently large doses to have toxic effects; untoward symptoms occurred in only 2 patients (both women) with hypertrophy of the thyroid; and the drug was discontinued in these cases.



A Study in Presbycusis

N. H. KELLEY (*Archives of Otolaryngology*, 29:506, March 1939) reports a study of the loss of hearing occurring with age (presbycusis) in 80 subjects in whom both ears were tested and 8 in whom only one ear was tested. The ages of the patients ranged from fifty to eighty-six, but there were only 3 subjects over eighty. The hearing tests were made with a Western-Electric audiometer 2 A which produces eight frequencies in octave intervals ranging from 64 to 8192 cycles. In none of the patients was there any history or clinical indication of previous ear disease. It was found that up to the age of seventy hearing remains practically normal for frequencies up to 512 cycles. The loss for low frequencies is slight in the age range from seventy to seventy-nine years. The loss of hearing for 1024 cycles is small up to the age range of seventy to seventy-nine years. In subjects of fifty years loss of hearing is apparent for cycles of 2048 and beyond. The higher the frequency the greater is

the loss of hearing, and the presbycusis for the high frequencies becomes progressive with increasing age. Most persons above sixty lost serviceable hearing for frequencies above 4096 cycles. In testing hearing for violin tones, it was found that the elimination of all frequencies above 4000 cycles does not affect the quality of a violin tone as heard by a person over sixty, but definitely alters the quality of the tone as heard by the normal ear. Thus for older persons with presbycusis, complex musical tones lack "brilliance" and they do not detect qualitative differences between musical instruments as they did when younger with normal hearing for the high frequencies. In testing the perception of vowels and consonants, at the intensity preferred by persons with normal hearing for ordinary conversation (38 decibels above threshold), it was found that the average person past sixty years of age is not seriously handicapped in the recognition of vowels, but is handicapped in recognition of the consonants. The recognition of vowels is limited only at low intensities.

Otitic Hydrocephalus

N. ASHERON (*Journal of Laryngology and Otology*, 54:319, June 1939) reports 7 cases of otitic hydrocephalus, and 2 additional cases simulating this condition. Otitic hydrocephalus, the author notes, is a benign lesion, usually diagnosed tentatively and "confirmed in retrospect," i.e., as the condition subsides. Otitic hydrocephalus occurs after a mastoid operation, and is particularly apt to occur after an operation for lateral sinus thrombosis, as in the author's first 2 cases; or after obliteration of the lateral sinus as in case III. The symptoms of otitic hydrocephalus are those of general increased intracranial tension without localizing signs; only one of the author's cases showed localizing signs. The treatment consists of repeated lumbar punctures, usually at daily intervals in severe cases, less frequently in mild cases. In the 2 cases in which the condition simulated hydrocephalus, the symptoms were later found to be due to the prodromal stage of pneumonia.



Relationship of Paranasal Sinus Disease to Ocular Disorders; A New Method of Investigation

A. J. CONE, S. MOORE and L. W. DEAN (*Laryngoscope*, 49:374, May 1939) note that there is a considerable diversity of opinion as to the relationship between paranasal sinus disease and ocular disorders, especially retrobulbar neuritis. This indicates the necessity for a special method of investigation to determine this relationship. Radiographic study of the paranasal sinuses, either with or without lipiodol as a contrast medium, is of definite value in diagnosis, but because of "superimposition of structures" there are definite limitations of this method, especially in the case of the ethmoid and sphenoid cells. For this reason the authors have employed in their study of the sinuses, a special radiographic method, known under the general term of body section radiography. With this method "a selected and predetermined layer of the body" can be radiographed with exclusion of shadows of overlying and underlying structures. This is done by having a co-ordinated, synchronized movement of x-ray tube and film about a fixed point during the exposure. Various apparatus and techniques have been designed for this special type of radiography; the authors have employed laminagraphy (Kieffer and Moore). Five cases of retrobulbar neuritis are reported in which laminagraphy showed definite sinus involvement, and subsequently treatment of the sinus condition improved the vision.

Ivory Implantation for Ozena

J. P. KASNETZ (*Archives of Otolaryngology*, 29:699, Apr., 1939) reports the use of an ivory implant in the nasal septum in the treatment of ozena. The size of the implant varies with the pa-

tient; the average size was 5x1.5 cm. by 5 mm.; the corners of the implant were rounded off and its surface sand-papered; it was washed, boiled for half an hour, and kept in physiological saline. In preparing the patient for operation, the nose is irrigated with normal saline to remove all the crusts. If the nasal membrane is very thin, the nose is packed with iodoform gauze for twenty-four hours, which causes the septal membrane to become hyperemic and thickened. The incision in the mucous membrane is made, on the opposite side of the septum from where the ivory block is to be implanted, down to the perichondrium but not through it. The mucous membrane is then elevated for about 5 mm. and the perichondrium cut through to expose the cartilage, which is also cut through as for a submucous resection. A sharp elevator is inserted between the cartilage and the mucoperichondrium on the opposite side, and a pocket made large enough to accommodate the implant, in the region of the middle meatus. The ivory block is then introduced into this space, the flap approximated, and loose packing applied for twenty-four hours. Sutures are not employed. The ivory implant should "fit loosely"; if there is too great tension on the mucous membrane, a "liberating incision" is made through the septal cartilage. In the cases in which this operation has been done, the reaction was slight, with slight rise of temperature, occasional headache or local pain. After operation all patients were completely relieved of the fetid odor—"the most dreaded complaint"; the mucous membrane became moist and pink; no crusts formed. In the first case, operated five years ago, the implant sloughed out eight weeks after operation, and all the symptoms recurred. In this case failure was due to improper adjustment of the size of the implant to the pocket and operation on the side of the septum on which the block was to be implanted rather than on the opposite side. In subsequent operations (5 cases), these errors have been avoided, the implant has been retained, and the patients remain free from symptoms. The relief of symptoms of ozena by this ivory implant, the author states, "is difficult to explain", but he is of the opinion that it is due

to "the narrowing of the chambers" by the mechanical effect of the implant.

Nasopharyngeal Atresia; an Operation

H. M. GOODYEAR (*Archives of Otolaryngology*, 29:974, June, 1939) notes that the treatment of nasopharyngeal atresia "is fraught with many difficulties and dangers". He describes a procedure for the relief of this condition in a man thirty-seven years of age in whom nasopharyngeal atresia with marked scarring of the posterior pharyngeal wall developed after an attack of scarlet fever in childhood. An opening about 2 mm. in diameter was found just posterior to "what remained of the uvula". After cocaineization of the nose and injection of procaine hydrochloride into the pharyngeal wall, a No. 4 sinus dilator was passed through the nose and "pressed firmly" into the adherent area; the tissue was cut horizontally down to the point of the instrument, the instrument was moved along and the incision continued as far laterally as there was bulging over the tip of the sound. The tissues, when "cut through and through", retracted upward and downward, leaving an area of normal mucous membrane 2 to 4 mm. wide. Healing was "uneventful", and eight months after operation a No. 4, 22 mm., pharyngeal mirror can be "comfortably" introduced through the opening. No obturator was worn at any time. The author notes that this procedure might be difficult to carry out for postsyphilitic atresia, or when there is scarring from previous operations, as in such cases retraction of the tissues might not occur. In such cases, the lower edge of the palatal flap might be trimmed, or 2 to 3 mm. removed with a right angle punch forceps, especially in the outer angles of the incision. The freshly cut edge of the palatal flap must rest on, or be anterior to, "an unbroken surface on the posterior pharyngeal wall" if reunion is to be prevented. The incision should not be carried too far into the lateral walls, as the resulting scar may reduce the opening.

Tuberculosis of the Tonsils

E. R. LONG and his associates at the University of Pennsylvania (*Archives of Internal Medicine*, 63:609, Apr. 1939) report a study of the tonsils removed at operation in 2000 cases; 1000 from various Indian reservations where the incidence of tuberculosis is high; 600 from Puerto Rico, where the incidence of tuberculosis is also relatively high, but below that of the Indian reservations; and 400 from Philadelphia where the incidence of tuberculosis is low. Tuberculosis was found in 81 pairs of tonsils, including 6.5 per cent of the tonsils from the Indian reservations, 2.5 per cent of those from Puerto Rico, and 0.25 per cent of those from Philadelphia. Roentgenograms of the chest were obtained in 35 of the 81 cases with tuberculous tonsils; active pulmonary tuberculosis of the adult type was found in 16 of these cases, and active tuberculosis of the childhood type in 2 cases. The tonsillar lesions in this group were cryptal and were more extensive than those in the remainder of the 35 cases, indicating that the tonsils had been infected from the sputum in these cases of active pulmonary tuberculosis. In another series of cases of closed tuberculosis, however, in which the sputum was persistently negative, tonsillar tuberculosis was regularly found and the lesions were similar to those found in active pulmonary tuberculosis with positive sputum. Thus "the mechanism of infection of the tonsils in cases of pulmonary tuberculosis remains unproved". In 9 of the 35 cases, the roentgenograms and the clinical history gave no evidence of pulmonary tuberculosis; in these cases the tonsillar infection was probably primary. In 2 other cases showing only calcified nodules of healed tuberculosis of the childhood type, the tonsillar lesion was evidently exogenous. In these 11 cases the tuberculous process consisted of a few epithelioid tubercles, and was usually unilateral. The relatively massive tuberculosis of the tonsils in cases of pulmonary tuberculosis and its chronicity indicate that repeated infection of the tonsils occurs in the course of the pulmonary disease.

Abscess of the Brain Following Tonsillitis and Retropharyngeal Abscess

I. S. WITCHELL (*Archives of Otolaryngology*, 29:835, May 1939) notes that intracranial complications of infections of the tonsils, peritonsillar and pharyngeal region are not common. Meningitis and cavernous sinus thrombosis or thrombosis of the jugular vein with extension into the cranial sinuses occur more frequently as a complication of tonsillar and peritonsillar infection than brain abscess. The author reports a case in a man twenty-eight years of age, in which acute tonsillitis was complicated by a retropharyngeal abscess. Incision and drainage of the abscess,

however, did not result in any improvement. Septic temperature persisted for several days. Exploration of the left side of the neck and the left internal jugular vein failed to show any extension of infection. Meningitis was considered as a possibility, but the diagnosis of brain abscess was not suggested until aphasia developed on the twenty-first day of the patient's illness. Blood and cerebrospinal fluid cultures were persistently negative. The patient died in coma on the thirty-sixth day. Autopsy showed abscess in the left temporoparietofrontal lobe and small cortical abscesses in the cerebellum. In a review of the literature, the author finds only 9 cases of brain abscess complicating tonsillar and peritonsillar infection reported since 1921.



ASSOCIATED PHYSICIANS OF LONG ISLAND

Fall Meeting, September 28, 1939

The fall meeting, outing and dinner will be held on Thursday, September 28th, 1939, at Jamaica, Long Island.

The scientific session will be held at the Mary Immaculate Hospital, 89th Avenue and 153rd Street (2 blocks from

Hillside Avenue), Jamaica, Long Island. This is a private, general hospital of 260 beds and 60 bassinets. At 12:30 P.M. an inspection will be made of the hospital. Luncheon will be served at 1:00 P.M. as guests of the institution. The scientific program consisting of four or five short papers on various medical and surgical topics by members of the professional staff will immediately follow the luncheon. At the conclusion of each paper, general discussion will take place. An unusually enjoyable dinner will be given at Pomonok Golf Club, Kissena Boulevard, Flushing, at 6:30 P.M. Golf and tennis will be available for those wishing to play. Reserve the date. Plan to attend.

MEDICAL BOOK NEWS

• All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, N. Y.

Edited by Alfred E. Shipley, M.D., Dr. P.H.

English Obstetrical Text

MIDWIFERY. By Ten Teachers under the direction of Clifford White, M.D. Edited by Sir Comyns Berkeley, Clifford White and Frank Cook. Sixth edition. Baltimore, William Wood & Company, [c. 1938]. 676 pages, illustrated. 8vo. Cloth, \$6.00.

This is the sixth edition of a book which was first published in 1917. There

has never been any doubt that it is a good textbook. Just a few notes on the English point of view. For eclampsia colonic irrigations and gastric lavage are recommended, and light chloroform anesthesia is advised freely for minor procedures. The terms accidental and unavoidable hemorrhage are retained. The only lower segment Caesarean described is transverse, and extra-peritoneal operations are not mentioned. "Once a diagnosis of nephritis is made pregnancy should be terminated . . . in the early months by abdominal hysterotomy and sterilization by excision of the tubes." Caldwell and Moloy's work is not mentioned. It is good to see that all ten teachers object to sterilization at the time of Caesarean, unless for grave and permanent organic disease in the mother. Caesarean can be repeated indefinitely they are sure. They thoroughly disapprove of the modern idea of being ordered to disconnect Fallopian tubes as one might order the plumber to disconnect the supply pipe to the bath.

This is different and very refreshing.

CHARLES A. GORDON,

Development of the Mind

THE BRAIN AND ITS ENVIRONMENT. By Joseph Barcroft. New Haven, Yale University Press, [c. 1938]. 117 pages, illustrated. 8vo. Cloth, \$2.00.



Girolamo Fracastoro
1484~1553

Classical Quotations

• As has been said, there is a power in these seeds that they may multiply and propagate their like.

Fracastorius
(Girolamo Fracastoro). *De Contagionibus*, 1546.

the development of the mind are considered. This volume is of interest particularly to those who have given thought to the relationship between soma and psyche.

A. M. RABINER.

Latest Revision of Kanavel

INFECTIONS OF THE HAND. A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand and Forearm. By Allen B. Kanavel, M. D. Seventh

MEDICAL TIMES, AUGUST, 1939

YOU may obtain any of the books reviewed in this department by sending your remittance at the published price to Book Department of the **MEDICAL TIMES**, 95 Nassau Street, New York, N. Y.

edition, Philadelphia, Lea & Febiger, [c. 1939]. 503 pages, illustrated. 8vo. Cloth, \$6.00.

Throughout his professional life Allen B. Kanavel accomplished countless worthy ends, but to the reviewer his work on hand infections is his most fitting monument. The seventh edition, as now published, will be the last to receive his personal revision. The task was finished just before his untimely death.

As an interne or even as a medical student this book should be thoroughly studied—not only because of its invaluable information on that most important organ the hand, but as a vital example of careful, exact, medical literature. It can not fail to stimulate the tyro to improve his investigative and recording methods. The principles so clearly evolved in relation to the hand are equally applicable to the field of general surgery. It is in no sense a book on minor surgery, but it would seem that anyone thoroughly a master of its contents would need no textbook of minor surgery.

This edition increases the emphasis not only on controlling infection but on preserving function. Various new procedures are introduced with illustrations.

WILLIAM H. FIELD.

A New English Clinical Surgery

THE ESSENTIALS OF MODERN SURGERY. Edited by R. M. Handfield-Jones, M.D. and A. E. Porritt, M.A. Baltimore, William Wood & Company, [c. 1938]. 1126 pages, illustrated. 4to. Cloth, \$9.00.

This is a textbook of surgery, written by fifteen of the leading surgeons of Eng-

land. Their efforts to teach clinical surgery with proper respect to the fundamental principles of anatomy, physiology and pathology, have been very successfully followed throughout the text. There is very little description of operative surgery, which unquestionably is not a subject for such a book. It is well written and beautifully illustrated. As a text for students and as a reference book for surgeons it will prove very satisfactory.

EDWARD P. DUNN.

Anatomy of the Nervous System

TEXTBOOK OF NEURO-ANATOMY AND THE SENSE ORGANS. By O. Larsell, Ph.D. New York, D. Appleton-Century Company, [c. 1939]. 343 pages, illustrated. 8vo. Cloth, \$6.00.

This volume is designed primarily as an introduction to neuro-anatomy for the first-year medical student. The chapters are arranged in an orderly fashion, in general following the orthodox outline employed by antecedent texts dealing with the subject. All of the more recent significant contributions to neuro-anatomy have been included, particularly those relating to the hypothalamus and cerebral cortex.

The author has amply illustrated the text with well selected figures. The majority of these have been drawn from standard textbooks of embryology, anatomy and neuro-anatomy, and will be familiar to the more advanced student. Several new plates and diagrams, some in color, have been offered.

The author sets out to unfold the subject in terms of embryology and comparative anatomy. However, since the embryologic presentation confines itself to the purely descriptive as opposed to the dynamic and deterministic aspects of the subject, and since the comparative neuro-anatomy is sketchy at best and in places entirely omitted, the author falls somewhat short of his expressed intention to demonstrate the nervous system "as a living active mechanism."

The most commendable presentations are those dealing with the interoceptors and the vestibular-cerebellar mechanisms. The author's own researches qualify him eminently to deal with these. The consideration given to the basal

ganglia is somewhat disappointing. The style is clear, concise and scientific, and is brightened by the use of illustrative case histories where these seems advantageous for the fixation of a functional concept.

The book will well serve its purpose as an introductory text. Its greatest use will be as a basis for clinical rather than academic neurology.

RUSSELL MEYERS.

American Medical History in the Making

THE MARCH OF MEDICINE. Selected Addresses and Articles on Medical Topics, 1913-1937. By Ray Lyman Wilbur, M.D. Stanford University, Stanford University Press, [c. 1938]. 280 pages. 8vo. Cloth, \$2.75.

This book consists of 30 addresses and papers, covering the period from 1913 to 1937, and expressing the observations and views of a cultured physician and teacher of international reputation who has made a life study of medicine in its relation to the welfare and health of the American people. He is thoroughly conversant with the development of medicine, from the "horse-and-buggy days," to the advent of the Medical Center, and recognizes the imperative demand that modern methods in etiology, diagnostics and medical practice and surgery be at the disposal of the people at large. He stresses the wisdom and necessity of Federal and State control of certain types of public hygiene, but insists that medicine, as a whole, should be under the direct supervision of the medical profession itself and absolutely exempt from any form of political influence whatever. He emphasizes the importance of child hygiene in its relation to the future of America; discusses the problems of medical education and the growing difficulty in the construction of a curriculum, which satisfies the demands of modern biology and, at the same time, avoids an imbalance of time devoted to technical work and the so-called practical branches of medicine.

Dr. Wilbur has given us a very engaging, and valuable contribution on some of the burning problems of medical ethics and practice, which should be in the hands of every physician in the country who is interested in his own future and the dignity of medicine in America.

JOSHUA M. VAN COTT.

Hertzler's Oral Pathology

SURGICAL PATHOLOGY OF THE DISEASES OF THE MOUTH AND JAWS. By Arthur E. Hertzler, M.D. Philadelphia, J. B. Lippincott Company, [c. 1938]. 248 pages, illustrated. 8vo. Cloth, \$5.00.

This volume constitutes the tenth and last of the series on surgical pathology by this author. The work is well arranged for ready reference, starting with general consideration of surgical affections of the mouth, and jaws, nonmalignant diseases of the lips, benign lesions of the mouth and tongue, malignant lesions of the mouth and tongue, granulomatous tumors of the gums, and ending with diseases of the larynx. The conditions are described in the following order, pathogenesis, pathology, histology. At the end of each chapter we have abundant references to the literature. We would recommend this book to general practitioners of medicine and dentistry. It is indeed a ready reference book for the busy man.

LAWRENCE J. DUNN, (D.D.S.)

Musical Healing

THE DOCTOR PRESCRIBES MUSIC. The Influence of Music on Health and Personality. By Edward Podolsky, M.D. New York, Frederick A. Stokes Company, [c. 1939]. 134 pages. 12mo. Cloth, \$1.50.

The subtitle of this book is The Influence of Music on Health and Personality. The author attempts to survey the facts pointing to the influence of music in health and in disease. He tries to analyze the physiological and emotional reactions resulting from music, and makes a plea that the subject be more thoroughly studied and utilized as a therapeutic agent, particularly in behavior disturbances.

When one considers the influence of music on human beings, both individually and collectively, it is indeed rather astonishing that it has not been more widely and scientifically studied, particularly with reference to its influence in disease. When one contrasts it with the interest that the profession has shown in physical agents as therapeutic measures in disease, one becomes convinced that the author has written a timely book that may arouse the interest of the medical profession in a much neglected subject that bears considerable therapeutic potentialities.

The book is highly recommended.

IRVING J. SANDS.

Quacks—Past and Present

THE POWER OF THE CHARLATAN. By Grete de Francesco. Translated from the German by Miriam Beard. New Haven, Yale University Press, [c. 1939]. 288 pages, illustrated. 8vo. Cloth, \$3.75.

Miss Beard's translation of this work gives us an exhaustive and authoritative treatise on a fascinating subject, for the quack has followed the doctor unflinchingly down the centuries, a sinister figure who does not wholly succumb, even now, to antiparasitic measures, however drastic.

The quack of today is not the gorgeous and romantic figure of these pages. Formerly, the quack was a colorful and magical exponent of pageantry and pomp in the course of his necessarily itinerant career, influencing the destiny of rulers and ruled alike, while the honest doctor usually remained in one environment because there was no occasion for flight. The quack of the romantic tradition, however, now sneaks about more obscurely, bedeviled by laws and officials and competitors. We have devised something more effective than the capital punishment that was once visited upon the most evil of quacks, for today his mantle is legally worn by competing politicians. One cannot read this book and miss the linkage. The fraudulent and swindling technic, fashioned for an equally gullible public, is basically the same. And Miss Beard's opening chapter gets no farther than the fifth line of the first paragraph before she is saying: "In all ages, the voice of the humbug has exercised a peculiar fascination—it is his chief weapon."

It is significant for our thesis as to the transmutation of the quack of yesterday into the politician of today that Henry Mencken, American specialist in the exposure of political quackery, is a descendant of that Mencken, German scholar, upon whom the author of this book leans again and again as a source of damaging evidence against charlatanry in the eighteenth century (author of *Charlataneria Eruditorum*. 1716). So we see the same family talent effectively at work in the two great fields of quackery, according as the respective centuries offer their characteristic targets.

ARTHUR C. JACOBSON.

Enzymes and the Origin of Life

LIFE'S BEGINNING ON THE EARTH. By R. Beutner, M.D. Baltimore, The Williams & Wilkins Company, [c. 1938]. 222 pages, illustrated. 8vo. Cloth, \$3.00.

This book was chosen for review because of the interest aroused from the title and from the statement on the paper cover: "A wholly new concept which uses chemistry as a key."

After careful reading of the entire book, this reviewer is unable to say whether this work was intended for the layman or professional reader. The style of presentation reminds one of Mary Baker Eddy.

The purpose of this monograph is obscure. One might use its chemical explanations of living substance in the vitalistic theory of the origin of life, or more easily apply its concepts to the opposite philosophy, the mechanistic theory.

PAUL C. ESCHWEILER.



Safeguarding Children Against Crime

DESIGNS IN SCARLET. By Courtney Ryley Cooper. Boston, Little, Brown and Company, [c. 1939]. 372 pages. 8vo. Cloth, \$2.75.

This is the third book by Mr. Cooper dealing, in a daringly reportorial style, of the many ramifications of crime. The present book is supposed to be more specifically directed to the exposure of the temptations to and the dangers of the young. The author tells us of drug addiction, of white slavery, of the sex aspects of the dance halls and the road side inn. He has included, however, an illuminating chapter on the abuses of the get-together clubs and the marriage bureaus.

Mr. Cooper has not changed his style much since the appearance of his second book, *Here's To Crime*, in 1937. His aim evidently is literally to "shock the public into action." Such a book will not have a special appeal to medical men, but surely doctors, more than laymen, should be acquainted with the problems here discussed. Whether medical men or laymen will react adequately to such shocking exposures made in this manner is questionable.

JOSEPH PAPHAEL.

A New Text on Eye Surgery

THE PRINCIPLES AND PRACTICE OF OPHTHALMIC SURGERY. By Edmund B. Spaeth, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 835 pages, illustrated. 8vo. Cloth, \$10.00.

The need of a modern volume on ophthalmic surgery has been very apparent for the past few years, so that the appearance of the present work by an internationally known ophthalmic surgeon is certainly timely.

Dr. Spaeth's reputation as a plastic surgeon might lead one to expect an over-balancing of the material in favor of that field. There is no such disproportion, however.

It is obvious that the plan, arrangement, and method of presentation is as important in a textbook of this kind as the actual subject matter. In this instance, one is immediately struck by the logical arrangement of the material, systematic review of the points to be considered, and by the clever arrangement of headings and sub-headings.

Dr. Spaeth is careful to emphasize that the ophthalmic surgeon must consider his material from a complete medical background not only in the ophthalmic sense, but as relates the body as a whole.

The illustrations are particularly clear in that they make manifest the points to be emphasized. It is obvious that the writer must have made every effort to consider the most recent contributions, and it strikes the reviewer as remarkable that a text of this kind can be so up to date. This is particularly so when one realizes that it usually takes a year between the time the manuscript is finished and the appearance of the completed work. The general appearance of the book is attractive, the paper and style of print appropriate.

JOHN N. EVANS.

Tidy's Synopsis Revised

A SYNOPSIS OF MEDICINE. By H. Letheby Tidy, M.D. Seventh edition. Baltimore, William Wood & Company, [c. 1939]. 1187 pages. 12mo. Cloth, \$6.00.

This edition follows the plan of previous ones in presenting a brief account of the prominent features of each disease in a form useful for quick review of the essentials.

Many changes and additions are found

in this revision. About forty pages have been added to the text, and the index has been entirely re-written with an additional thirty-two pages. It fills a place between the small compend and the large textbook in a satisfactory way, as attested by its popularity.

WILLIAM E. MCCOLLOM.

Thyroid Prophylaxis

IODINE AND THE INCIDENCE OF GOITER. By J. F. McClendon. Minneapolis, University of Minnesota Press, [c. 1939]. 126 pages, illustrated. 4to. Cloth, \$5.00.

The name of Dr. McClendon has always been linked with iodine, goiter and their mutual interdependence. In this book, the author has brought together for easy reference all the data on the distribution of iodine in its relationship to goiter.

In a scholarly manner he painstakingly details the sources of iodine with tables showing exactly when and how much iodine is present in air, food, soil, water, etc. The second part of the book brings together innumerable data concerning the distribution and incidence of goiter.

It should prove a most valuable reference book for those interested in this vitally important public health problem.

CHARLES G. WILLIAMSON.



Popular German Medicine

ADERVERKALKUNG UND HOHER BLUT-DRUCK. By Dr. Karl Barth. 3. Auflage. München, Franz X. Seitz, [c. 1939]. 29 pages. 8vo. Paper, 1 Mark.

The purpose of this booklet is, as the author claims, to console the discouraged and to enlighten the healthy. The advice which the author gives can apply to other conditions in life as well as to arteriosclerosis and high blood pressure. Statements like these are very misleading: "in cases of apoplexy a phlebotomy is advised, but in cases of cerebral thrombosis it is dangerous"; "X-Ray examinations have become so ridiculously popular that even doctors do them often without judgment." Such statements do not belong in a booklet for laymen. The brochure does not offer very much for the physician.

MEDICAL TIMES, AUGUST, 1939

DAS ASTHMA UND SEINE BEHANDLUNG.
By Dr. Max Bickel. 3. Auflage, München, Franz X. Seitz, [c. 1939]. 40 pages. 8vo. Paper, 1.80 Marks.

The preface of this brochure, published in January 1939, states that fundamental advances in the treatment of asthma have not yet been accomplished, nor can they be hoped for in the future. The booklet itself gives a brief review of the modern conceptions of asthma; the causes of asthma including the main points of allergy in a way which can be understood by laymen. The treatment comprises about one-half of the publication and includes some good advice on prevention.

We question, however, the effect which the reading of the other half of this booklet will have on the asthmatic patient.

WIE SOLL EIN HERZKRANKER LEBEN UND WIE SOLL MAN LEBEN, UM NICHT HERZKRANK ZU WERDEN? By Dr. Karl Barth. 4. Auflage, München, Franz X. Seitz, [c. 1939]. 20 pages. 8vo. Paper, 80 Pfennig.

In the opinion of the reviewer, this little booklet has no scientific value. It gives people who are suffering from heart disease or who suffer from the imagination of a heart condition, poor preventive advice. There is consolation in the statement that many conditions incurable 25 years ago are now curable. Others incurable today, may be curable in the near future. His chief advice is moderation in every regard.

MAX G. BERLINER.

Another Popular Book on a Physician's Experiences

DOCTOR, HERE'S YOUR HAT! The Autobiography of a Family Doctor. By Joseph A. Jerger, M.D. New York, Prentice-Hall, Inc., [c. 1939]. 279 pages. 8vo. Cloth, \$2.75.

This book, which consists of a series of personal experiences, is filled with reader interest quite different from the usual run of autobiographies. The experiences related are commonplace to the average physician who could no doubt match the author story for story. This series of stories is so well told, and each has such a gripping effect upon the reader, that it demands delving into the next story. If, in this book, nothing is contributed to benefit medicine, it at least is an outstanding contribution to modern literature.

MEDICAL TIMES, AUGUST, 1939

Dr. Jerger amply proves himself a paradox in nearly every chapter. For instance, in his philosophy, he condemns the profession for extreme specialism to the detriment of the family doctor; yet he himself goes to a large city (Chicago) and becomes a successful specialist. He is disgusted with the ethics of other doctors, when they chisel a patient from him; yet he relates several instances where, single handed, he took cases from others, invariably specialists.

The feeling left with the reader is that specialists, with few exceptions, know little but Dr. Jerger knows a great deal. He is very modest in explaining that this is due to his great common sense as acquired from the "Old Doc." This self aggrandizement and open solicitation of patients, when put in print, is unethical. However, he makes it clear that he is a firm believer in the ethics of medicine.

No doubt Dr. Jerger's criticism of medicine as a system is properly timed to make this book a best seller to the layman. Nothing is so popular today as lambasting the medical profession or ranting against a system.

The reviewer is personally impressed that Dr. Jerger is an excellent writer, but acts like a spoiled child of medicine. After growing up and becoming successful, first as a country doctor and later a rich specialist, he turns on his benign parent, organized medicine, because the fact that he is disobedient and unethical is brought to his attention.

THOMAS B. WOOD.

Bacterial Biochemistry

BACTERIAL METABOLISM. By Marjory Stephenson, Sc.D. Second edition. New York, Longmans, Green and Company, [c. 1939]. 391 pages, illustrated. 8vo. Cloth, \$7.50.

The book gives not only a complete description of the work done on bacterial metabolism but may be considered also as a brilliant textbook of many aspects of modern biochemistry. The chapters on respiration, oxidation reduction potentials and the fermentation of hexoses present these modern subjects in a clear and penetrating manner. Approximately 1000 references testify to the thoroughness with which the literature is discussed.

U. FRIEDEMANN.

A New Pathological Theory

NEULAND IN DER HEILKUNDE. By Dr. Henri Hirsch. Basel, S. Karger, [c. 1937]. 87 pages. 8vo. Paper, Swiss Francs 3.20.

Not satisfied with present therapeutic results, especially in cancer and some surgical conditions such as postoperative embolism, the author submits a new pathological theory. He stresses the importance of the relationship between blood sugar and blood smear findings and the individual concentration of

sodium chloride in the blood fluid to determine a condition of acidosis or alkalosis. A new homeo-organotherapy is recommended and supposed to work by means of transmineralization. The author believes he has found a definite explanation of the beneficial effect on schizophrenia by insulin therapy and to be very close to a new cancer treatment without surgery or radiotherapy.

MAX G. BERLINER.

BOOKS RECEIVED

for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

WIDE ROAD AHEAD. The Story of a Woman Bacteriologist. By Anne B. Fisher. New York, E. P. Dutton & Co., Inc., [c. 1939]. 276 pages. 8vo. Cloth, \$2.50.

HEART PATIENTS. Their Study and Care. By S. Calvin Smith, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 166 pages. 8vo. Cloth, \$2.00.

LABORATORY MANUAL OF THE MASSACHUSETTS GENERAL HOSPITAL. By Francis T. Hunter, M.D. Third edition. Philadelphia, Lea & Febiger, [c. 1939]. 12mo. Cloth, \$1.75.

DISEASES OF THE NOSE AND THROAT. By Charles J. Imperatori, M.D. and Herman J. Burman, M.D. Second edition. Philadelphia, J. B. Lippincott Company, [c. 1939]. 726 pages, illustrated. 8vo. Cloth, \$7.00.

THE NEW INTERNATIONAL CLINICS. Original Contributions: Clinics and Evaluated Reviews of Current Advances in the Medical Arts. Edited by George M. Piersol, M.D. Volume II, New Series 2. Philadelphia, J. B. Lippincott Company, [c. 1939]. 8vo. Cloth, \$3.00.

INTRACRANIAL TUMORS OF INFANCY AND CHILDHOOD. By Percival Bailey, Douglas N. Buchanan and Paul C. Bucy. Chicago, The University of Chicago Press, [c. 1939]. 598 pages, illustrated. 8vo. Cloth, \$5.00.

THE ENDOCRINE GLANDS. By Max A. Goldzieher, M.D. New York, D. Appleton-

Century Company, [c. 1939]. 916 pages, illustrated. 8vo. Cloth, \$10.00.

ECONOMIC ASPECTS OF MEDICAL SERVICES. With Special Reference to Conditions in California. By Paul A. Dodd, Ph.D. and E. F. Penrose, Ph.D. Washington, Graphic Arts Press, Inc., [c. 1939]. 499 pages, illustrated. 8vo. Cloth, \$3.75.

A TEXTBOOK OF SURGERY. By American Authors. Edited by Frederick Christopher, M.D. Second edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 1695 pages, illustrated. 4to. Cloth, \$10.00.

TREATMENT IN GENERAL PRACTICE. The Management of Some Major Medical Disorders. Volumes I and II. Boston, Little, Brown and Company, [c. 1939]. 8vo. Cloth, \$7.50.

AN INTRODUCTORY GUIDE TO BIO-CHEMISTRY. By Sidney Bliss, Ph.D. Philadelphia, W. B. Saunders Company, [c. 1939]. 103 pages. 16 mo. Cloth, \$1.25.

TREATMENT BY DIET. By Clifford J. Barborka, M.D. Fourth edition. Philadelphia, J. B. Lippincott Company, [c. 1939]. 691 pages. 8vo. Cloth, \$5.00.

MEDICAL STATE BOARD EXAMINATIONS. Topical Summaries and Answers. An organized review of actual questions given in medical licensing examinations throughout the United States. By Harold Rypins, M.D. Fourth edition. Philadelphia, J. B. Lippincott Company, [c. 1939]. 448 pages. 8vo. Cloth, \$4.50.



You may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the MEDICAL TIMES, 95 Nassau Street, New York, N. Y.

The Iliopectineal Bursa, A Synovial Cinderella

OF late, those friction-minimizing "bearings" of the body machinery known as the bursae have received increased attention, owing in part to the development of industrial medicine and surgery. Bursitis and its frequently related condition, fibrositis, are more and more the subjects of journal and textbook treatment.

Although some anatomists fail to designate the iliopectineal bursa specifically, and although many clinicians are not always alive to lesions of this structure—nor even to its presence—these things cannot be said to be due to a lack of excellent studies on the part of a rather small group. The studies exist for one to avail oneself

of them if so disposed. The idea that the condition is a rare one is not so true as the fact that it is too often overlooked. One may properly propose another name for this structure—the Cinderella bursa—pending the increase of "press agents" who may be depended upon eventually to

confer "box office" importance upon it; to "sell" it, in short, to the general profession.

Heretofore, there has not been much mention in our general literature of the iliopectineal (or iliopsoas, or bursa mucosa subiliaca) bursa, largest of all the synovial bursae, and situated within Scarpa's triangle between the musculotendinous portion of the iliopsoas muscle and the iliofemoral segment of the capsular ligament of the hip joint. One will still encounter in textbooks discussions of the important bur-

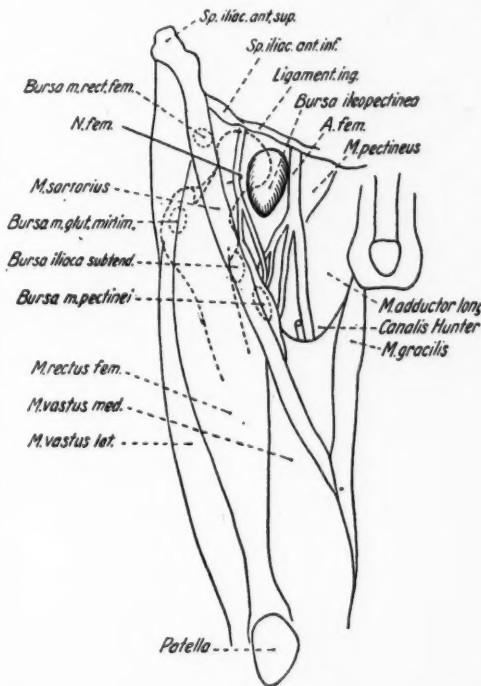


Fig. 1. Diagram showing the anatomical relationships of the iliopectineal bursa (After Timmermann, H. W.: Ueber die Bursitis Iliopectinea, Med. Klin. 29:1172, Aug. 25, 1933).

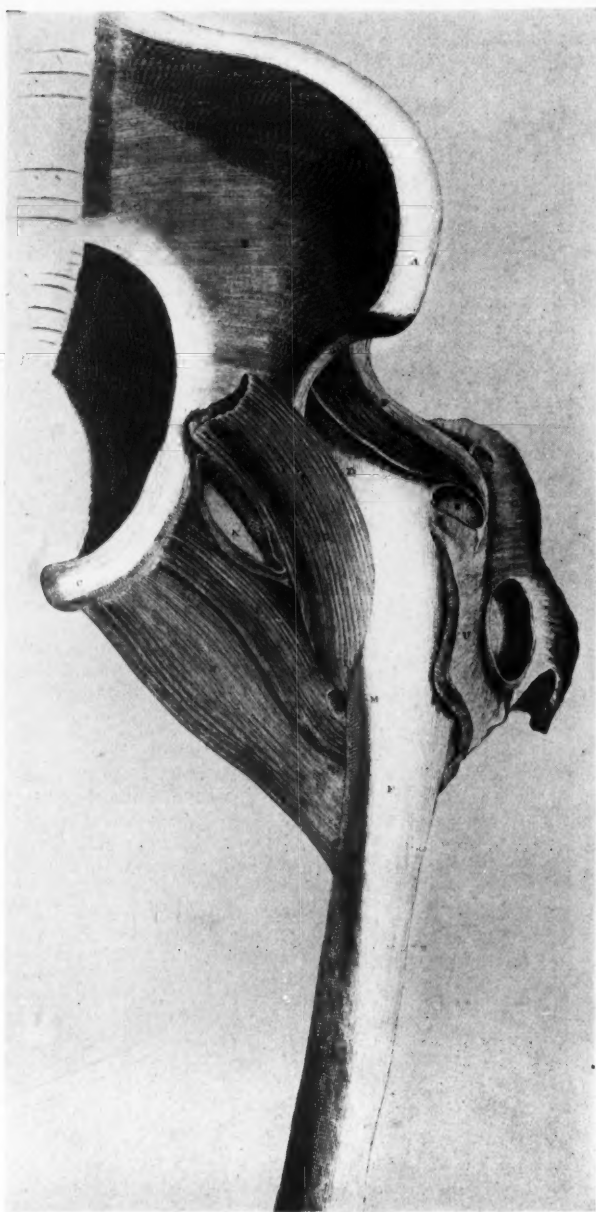


Fig. 2. The letter K identifies the iliopectineal bursa (After Alexander Monro, "A Description of All the Bursae Mucosae of the Human Body", Edinburgh, 1788); reproduced by courtesy of the Library of the Medical Society of the County of Kings, Brooklyn, N. Y.

sae without even a listing of the iliopectineal. However, as we have intimated, this relative neglect of the anatomical analogue of the "forgotten man" will not continue, because of the keen interest of the industrial surgeons (e.g., Schmitter — *Industrial Medicine*, 7:82-90, Feb., 1938), of orthopedists, and of physicians who have sensed the importance of fibrositis in relation to bursitis, and vice versa.

Thomas Cullen, in his report of a case of iliopectineal bursal disease (*J. A. M. A.*, 54:1184, 1910), advised a return to the beautiful study of Alexander Monro of all the then known bursae (140). Monro's work, "A Description of All the Bursae Mucosae of the Human Body", was

published in 1788. The Library of the Medical Society of the County of Kings possesses a splendid copy of this extraordinary work, and the Library has courteously permitted this publication to reproduce the plate facing page 14 in *Monro's atlas*. A diagrammatic representation, after Timmermann, of the relationships of this bursa to adjacent structures, is also shown.

The interested reader will find an excellent drawing of a dissection of the iliopectineal bursa in Lund's paper, the first American report of [3] cases (*Boston M. and S. J.*, 147:345, 1902).

In Heisler's "Practical Anatomy", second edition, 1920, on page 224, will be found a striking illustration of an injected (distended) iliopectineal bursa which gives an especially good idea of its magnitude. There are also beautiful colored plates in Sobotta's "Atlas of Human Anatomy" showing the iliopectineal bursa (Figs. 305-306, Vol. I, page 228; edited by McMurrich, 1927), as well as in the "Hand Atlas" of Spalteholz (Vol. II, 3rd German edition, p. 332).

The first anatomic reference to the iliopectineal bursa occurs in Vesalius' "De Corporis Humani Fabrica Libri Septem" (1543). The first pathologic report is that of Fricke (*J. der Chirurgie und Augenheilkunde*, 21:235, 1834).

The first comprehensive article was that of Durville (1895); the second was that of Zuelzer (1899); the third was that of Gatch and Green, in the United States (*Ann. Surg.*, 82:277, 1925); then comes Denis O'Connor's admirable paper (*Surg., Gyn. and Obs.*, 57:674, Nov. 1933), with a report of thirty-three cases and a bibliography covering the total of thirty-seven cases from Fricke's original case to the date of O'Connor's article. Since O'Connor's study the literature has given us contributions from other Americans—Kaplan and Ferguson (*Am. J. Surg.*, 37:455, Sept. 1937), which is a general study of the bursae, with brief mention of the iliopectineal bursa; and J. G. Finder (*Arch. Surg.*, 36:519, March, 1938), in which there is a general discussion and the report of a case.

The iliopectineal bursa occasionally communicates by means of a circular opening with the hip joint (15 per cent), a point always to be borne in mind.

The causes of inflammation in this bursa are mainly trauma and infection. Monro stressed the relation of "rheumatism" to bursitis, which today we may interpret frequently as fibrositis.

Generally speaking, iliopectineal bursitis may be simulated by hernia, hip joint disease, perinephritic abscess, and tuberculous spondylitis causing psoas abscess. One should seek to avoid placing an iliopectineal bursitis definitely in the osteoarthritis category, at the same time recognizing the possibility of an osteoarthritis plus a communicating bursitis, the latter mirroring the former.

The signs may be roughly summarized (O'Connor) as tenderness on palpation in Scarpa's triangle over an area of two square centimeters at a point two centimeters lateral to the pulsation of the femoral artery and just below Poupart's ligament halfway between the symphysis pubis and the anterior superior iliac spine. There is fulness or a tumor in Scarpa's space. Limitation of hyperextension is usually notable; pain may be caused by the attempt to stand erect or to lie with the limbs extended. External abduction and internal rotation cause pain. Active acute flexion of the hip from the sitting position with the knee extended gives a sensation of pain in front of the hip and the maneuver is weak in its performance. In walking, the patient limps.

A point of great importance in O'Connor's paper is the absence of a tumor in twenty-three of his thirty-three cases. It is early recognition of the condition for which O'Connor pleads, regardless of the presence of a tumor.

Early diagnosis and prolonged rest give the best promise for medical treatment. To look only for the appearance in this region of the major signs of advanced pathology, such as a tumor denoting an abscess or a new growth, is a good deal like waiting for the major

—Continued on page 406



**ESTABLISHED
IN 1872**

Retropharyngeal

ABSCESS

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Louisville, Kentucky

RETROPHARYNGEAL abscesses are far more frequent in the young than in adult life, the greatest number occurring in children under three years of age. The abscess lies under the mucous membrane of the pharynx in front of the body of a cervical vertebra and separated from the bone by several layers of muscles and fascia. It usually starts in one of the lymphatic glands which extend in chains on both sides of the central line of the pharynx from the basilar process down to the mediastinum. These glands receive lymphatics from the nose, the nasopharynx, the sinuses, the fossa lying above the tonsils, the eustachian tubes and adjacent structures. Infections in any of these areas may be carried to this chain of glands, just as they are so frequently transmitted to the anterior or posterior groups of cervical glands. These external glands are enlarged many times from infections in the area which they drain. Such glands do not always suppurate, in fact the greater number of such adenopathies will gradually clear up after several weeks, without abscess formation. Any one having had experience with children recognizes the vulnerability of these lymph glands. It is probable that adults gradually acquire or develop immunity because of frequent submarginal infections. Children have not as yet elaborated their immune bodies so that with any lesion of the mucous membranes of the nose or throat there will be a reaction in the corresponding lymph glands with swelling and some pain. The retropharyngeal glands have also followed this rule and do not always suppurate, but this is rare. It is difficult to explain why these glands

are not more frequently attacked as they lie in a very vulnerable position. It is probable that they are usually overlooked unless the swelling has gone on to ulceration, and the frequency with which even an ulcerated gland is missed and a preventable death has occurred establishes a sad record of our inefficiency.

Retropharyngeal abscesses may lie deeper, under the fascia which covers the prevertebral group of muscles, and take their origin from a tuberculous involvement of the bodies of the upper cervical vertebrae. Osteomyelitis other than tuberculous is not unknown in this location. Orthopedists meet such cases occasionally. It is possible that traumatic injuries to the neck can also produce these deep abscesses, and with the growing number of automobile injuries, such eventualities are bound to increase. Trauma of the pharyngeal wall by pins, tacks, glass, etc., may through perforation of the posterior wall of the pharynx result in a retropharyngeal abscess, or, if lower down in the oesophagus, cause a retro-esophageal abscess. It must be reiterated that such abscesses may develop without any evident injury to the mucous membrane of the pharyngeal wall.

THE diagnosis of such an abscess is not difficult if its possibility is kept in mind. Three outstanding symptoms are dyspnea, dysphagia and a peculiar nasal voice. The dyspnea is inspiratory as the swollen mass is sucked over the larynx by inspiration. It is lifted up by expiration and does not obstruct the outgoing air unless the tumor is below the level of the larynx. The dysphagia prevents swallowing, the food often being forced out through the nose as well as the mouth. Both dyspnea and dysphagia are progressive. The nasal timbre of the voice and cry has been to me the

Read before the Medico-Chirurgical Society April 14, 1939.

earliest warning note of the nature of the trouble. One should easily recognize the toneless voice due to adenoids. The hoarseness of acute laryngitis is readily distinguished from the near-aphonia of a diphtheritic membrane in the larynx. These abscesses cause a cry which has a distinct nasal quality. Dean terms it a quack cry, which is not very accurate. Perhaps "quanck cry" is a better nomen.

When such symptoms are presented, one must palpate the throat and usually the mass is felt to one side, and, if the condition has not been recognized sufficiently early, fluctuation will be present. Later the swelling will extend clear across the pharyngeal space. There will also be some fever, a tilting back of the head, perhaps to one side, occasionally an external swelling below the angle of the jaw on the same side, and the evidences of a sick child. Tuberculous disease of the upper cervical vertebrae causes the neck to be held in a much stiffer posture.

Quinsy or peritonsillar abscess seems to cause much more pain from deglutition and there will not be the delayed regurgitation after the fluid has passed the tonsils. It is difficult to get a patient with quinsy to open the mouth at all, but it is not at all hard to examine and to palpate the pharynx for a retropharyngeal abscess. An x-ray will show the characteristic displacement forward of the larynx and upper trachea, but the diagnosis should be clear without this added aid.

On account of the rapid, difficult respiration a false diagnosis of bronchopneumonia has often been made in cases of retropharyngeal abscess. So far as the sounds in the lungs are concerned, the transmitted râles over the lungs, the restlessness and distress of the sick child, the high fever and the accompanying lung symptoms make a proper diagnosis somewhat difficult for even a good internist.

The accidental fracture of the cervical vertebrae and a displacement forward of the body of a vertebra very rarely would produce a protruding forward of the postpharyngeal wall, but other symptoms should be present to insure a proper diagnosis.

THE treatment should be evacuation of the pus at the earliest moment, by an accurate puncture with a guarded bistoury, or by puncturing with dressing forceps and spreading the blades. The child does not require an anesthetic, but the head should be thrown far forward immediately upon the opening so that the pus will not be inhaled into the larynx, and into the trachea. Some surgeons advise that the operation be done from the outside by incision back of the sternocleidomastoid muscle. The objections to this are that the operation requires a prolonged anesthesia, the field is surrounded by many important nerves and blood vessels, and there will be discharging sinuses for several weeks and a permanent scar left. This type of operation should be selected in case of tuberculous or other form of osteomyelitis where operation is indicated because the pus here is behind the rather dense layer of fascia covering the longus colli muscle.

Some surgeons have made the point that the pus which drains from the abscess when opened on the inside will be swallowed and cause septic symptoms by absorption. Such has not been my experience. In fact in all cases of retropharyngeal abscess there has already been a mucopurulent discharge from the nose which has been swallowed apparently without injury.

The importance of the early recognition of these abscesses is emphasized by the severe if not fatal sequelae and complications. The projection of the tumor over the larynx may itself cause strangulation. The abscess may rupture suddenly during sleep, asphyxiating the baby, or it may discharge smaller amounts of pus which are inhaled into the lungs, causing a fatal bronchopneumonia, or an abscess of the lung.

DIFFERENT types of organisms depending upon the original focus of infection will produce somewhat different destructive lesions of the adjoining tissues. Ulceration of the internal carotid artery with fatal hemorrhage has been reported by Dr. Claude T. Wolfe and others. The lives of several of these cases have been saved by a prompt ligation of the internal or common carotid.

Such a happy outcome is possible only when the child is in a well equipped hospital. Ulceration of the internal jugular, also with resulting hemorrhage, has been noted.

The pus may burrow laterally and be discharged through the external auditory canal, very rarely into the middle ear. It has opened beneath the ear or through the parotid gland. Facial paralysis has been reported and rarely a fatal meningitis. Edema of the glottis is a very alarming and dangerous complication. Ulceration of various localized groups of muscles leaves a permanently scarred pharynx.

It is obvious that the pus may be carried down into the mediastinum. The more superficial ulceration will cause pus to flow along the anterior surface of the fascia, but if the pus comes from a diseased vertebra it will follow much deeper planes into the posterior mediastinal space. Either of these creates a very serious surgical problem for even

an experienced thoracic surgeon.

Several deaths have been reported as due to forcing the mouth open with a gag for the purpose of examination and before any operation was attempted. The explanation of these sudden deaths is not very clear. Some have suggested the status thymolymphaticus, which is not convincing. Others believe that pressure upon the pneumogastric or other nerves is increased by the stretching of the throat. This explanation also is unsatisfactory, but the fact of the sudden deaths should warn us to approach these cases very cautiously.

WHEN a retropharyngeal abscess is recognized promptly and is properly treated the mortality will run as low as 5 per cent. The various sequelae and complications noted above emphasize the danger of the unrecognized case and also of an unjustified postponement of surgical intervention.
HEYBURN BUILDING.

ILIOPECTINEAL BURSA

—Concluded from page 403

signs of pernicious anemia before assuming the responsibility of making a diagnosis.

O'Connor condemns incision and drainage, except for the release of pus. Aspiration is hazardous on account of the proximity of the bursa to the artery, nerve and vein. "If any surgical procedure is considered desirable . . . the bursa should be excised as a whole" (O'Connor).

The method of washing through the bursa with saline has special application because of difficulties met with in its removal.

Roentgenographic visualization of this bursa may yet possibly prove to be more than an idle dream. The future may give us a technic of injection of the hip joint, in nonsuppurative cases of bursitis, with some radiopaque and harmless medium, following already accredited orthopedic technic for aspiration by one of the routes other than the anterior, in order to disclose or exclude communication roentgenographically. After determination of noncommunication, a sclerosing analgesic might be injected into

the bursa following regional anesthesia, exposure, and aspiration by direct anterior approach. As an alternative to this, a two-stage technic might possibly be followed, involving exposure, aspiration, and injection of the bursa with a contrast medium, with closure of the operative wound, followed by roentgenographic study. The second stage would consist either of a sclerosing or extirpating procedure, involving in either case direct open approach, according to the findings with respect to communication.

Finder, in the paper cited, describes how, after evacuating the fluid from a diseased iliopectineal bursa, synovial fluid was seen to pass from the joint through the opening into the sac cavity *when the hip was passively moved*. Future diagnostic technic, with respect to the determination of the presence or absence of communication, will presumably include such passive movement in order to insure the passage of the opaque medium from the hip joint into the bursa, should the opening be patent, or from the bursa into the hip joint.

The feasibility of the suggested radio-graphic technic should be determinable upon the cadaver by means of the injection of dyes.

RESULTS IN THE TRANSURETHRAL TREATMENT OF

Prostatism

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PROSTATISM is a general term used to include all types of bladder dysfunction arising from an obstructing lesion in the prostatic area. A classification of conditions falling into this group would include the following: (1) Benign prostatic hypertrophy—this type of enlargement is encountered most frequently. Generally speaking it constitutes about 70 per cent of all the obstructing lesions found at the bladder neck. It is produced by an adenomatous enlargement of the periurethral glands in the prostatic urethra. (2) Adenocarcinoma of the prostate gland—this malignant process arises in the posterior lobe of the prostate proper. Its origin explains why malignant disease may be manifest long after the removal of a benign adenomatous hypertrophy. Adenocarcinoma constitutes about 20 per cent of all obstructive lesions at the bladder neck. (3) Median bar formation—these small obstructions are usually fibrous in character and constitute about 10 per cent of the total number. Although this type of lesion may be small the degree of obstruction is frequently out of proportion to its size. A small bar or median lobe formation may produce more obstruction than an enormous enlargement of the lateral lobes. On rectal examination little if any enlargement of the prostate gland will be detected and cystoscopic examination is necessary when this type of obstruction is suspected.

Prostatism occurs in about 40 per cent of all men over 60 years of age. Two generations ago sixty was considered to be an advanced age. More recently our

concept is changing. There are at the present time, in this country, more men 60 years of age or over than in any previous period. The prospect for a uniform advance in the span of life seems particularly good. It is apparent, then, that this is a condition likely to be encountered more frequently in the future, since enlargement of the prostate gland is essentially a disease of senescence. Many theories have been offered to explain this phenomenon. A detailed discussion of these thoughts is obviously out of place in this paper, but it is sufficient to say that most recent investigators believe it is produced by a gradual, progressive diminution in the gonadotropic hormone.

THE prostate gland surrounds the neck of the bladder, and through it passes the prostatic urethra. It is easy to see how an enlargement of this organ may produce an obstruction to the outflow of urine. Clinically, obstruction may be divided into three phases, of which the first represents the earliest phase when the prostate gland has only begun to encroach on the lumen of the urethra. This calls forth an increased effort on the part of the bladder to empty itself. The increased muscular effort results in hypertrophy and greater muscular tone, a compensatory reaction enabling the viscus to empty itself. In this phase of the process, this bladder becomes, however, less distensible. The capacity is decreased so that more frequent emptying is demanded. The outstanding symptoms in this stage, therefore, are frequency of urination, both during the day and at night, and hesitancy, with difficulty in starting the stream. An increase in the terminal dribbling may also be present.

Hematuria is frequently seen and it is interesting that the bleeding is more common in this type of case than in instances of prostatic malignancy.

A test for residual urine shows the bladder to be emptying itself properly, since, in the first stage, the obstruction has not as yet reached the point where the bladder is unable to force its contents past the obstructing lesion. The urine is clear and contains only a few leukocytes or blood cells.

The second phase of obstruction differs from the first principally in degree; it represents an appreciable advance in the process. The bladder musculature is greatly thickened. Atrophy is beginning to appear. The muscle fibers are gradually replaced by fibrous tissue. As this process advances the bladder is no longer able to overcome completely the obstruction, so that a varying amount of residual urine remains after voiding. The residual urine has a tendency to become infected, increasing the symptoms of dysuria, frequency and terminal dribbling. Obstruction combined with infected, residual urine offers an ideal prospect for the formation of bladder stones.

AS the second stage continues and progresses for several years, the kidneys begin to show the effects of increased intrapelvic pressure, from excreting urine into an overloaded bladder. The renal pelvis and ureters become dilated, their walls become thin and atrophic. The renal parenchyma becomes atrophic and in extreme cases may be compressed into a thin functionless shell. The bladder is also affected by the increased pressure, with consequent hypertrophy, followed by fibrosis and atrophy, as has been mentioned. Diverticula of

the bladder also occur. In several instances the capacity of a diverticulum has been greater than that of the bladder itself. Relief of obstruction has been sufficient in these cases and surgical removal of the diverticulum has not been necessary. Ascending infection will also play its part. Obstruction is the prime requisite for infection, and the two principal causes of death in prostatic obstruction are infection and uremia.

The third is the ultimate stage of the process. It is characterized by complete retention of urine that results in a rapidly developing uremia.

A REVIEW of the mechanism whereby obstruction is operatively relieved seems indicated here, because in the past practically all of our clinical material has been recruited from patients in the second or the third stage. These patients, with acute retention, are desperate cases requiring immediate relief. In the past few years there has been a marked increase in the number of patients with early involvement to seek relief before extensive permanent damage has been done. This tendency is due in part to the increased confidence in the urologic surgeon, who offers now a relatively safe operation followed by a short period of convalescence. These patients should not be permitted to go untreated until the second or third stage of obstruction.

The cold punch instrument may be defined as a resectoscope employing a tubular-shaped knife not activated by an electric current. The relief of bladder neck obstruction with this type of instrument is credited to Young, who in 1910 described his original punch instrument. Following this, the Braasch median bar inciser appeared. The third stage of the evolution was represented by the Braasch-Bumpus resectoscope. Approximately three-fourths of the operations reported in this paper were carried out

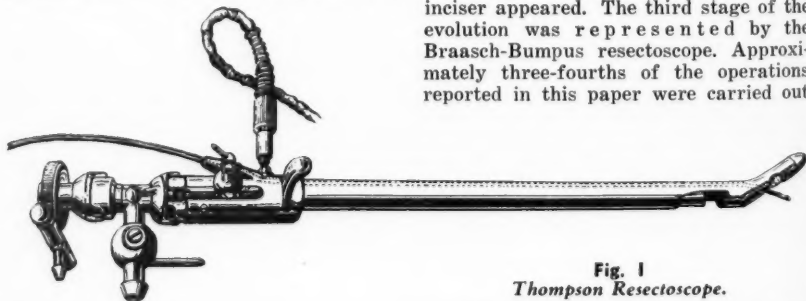


Fig. 1
Thompson Resectoscope.

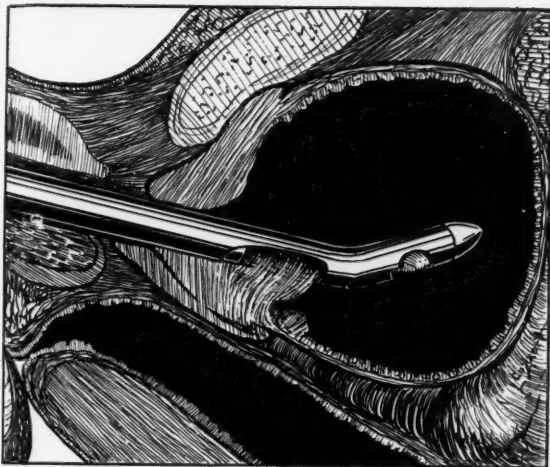


Fig. II.
*Artist's concept of the
process of prostatic re-
section.*

with the Braasch-Bumpus instrument. In approximately the last 50 cases the Thompson instrument (Fig. I) has been employed. It embodies all of the principles utilized in the previously mentioned instrument with the added advantage of having all the working parts assembled at once, thereby increasing the efficiency of the operation and reducing the operating time.

The following observations are based on a consecutive series of 226 operations on 188 patients. These resections were done by the author and include all types of glands, both benign and malignant.

The management of the patient with prostaticism has also undergone considerable change, particularly as regards pre-operative treatment. A long period of drainage by urethral catheter is found to be unnecessary in the majority of

cases. Only those exhibiting nitrogen retention or urosepsis are subjected to pre-operative drainage and in these instances only for the minimum length of time required to regain renal balance or relieve urosepsis. Further experience with transurethral resection has led to change in the technique of the operation itself. At first it was thought that simply cutting a channel or a groove through the gland would be sufficient. This plan would work admirably if the gland were composed of some inelastic material like cartilage, but unfortunately in many instances the lateral lobes of the prostate (Fig. II) will fall together and produce more obstruction after the median lobe is removed. At the present time our objective is to clean out, as efficiently as possible, all obstructing tissue from the median and lateral lobes alike, including the intravesical as well as the intraurethral por-

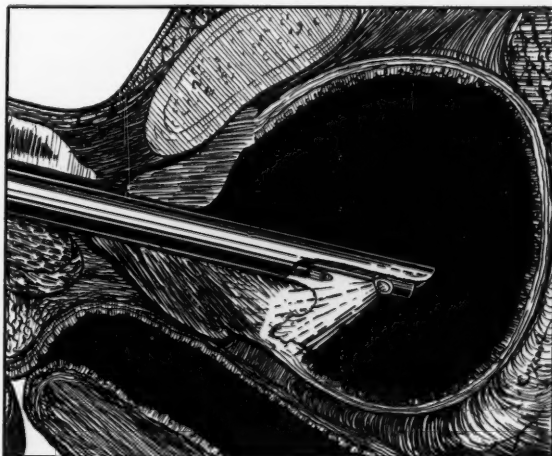


Fig. III.
*The retrograde lens is of
value in determining the
degree of intravesical in-
trusion of the prostatic
lobes.*

tions. A careful inspection of the bladder neck with the retrograde lens cystoscope (Fig. III) is made before the operation is started. This is done to determine the degree of intravesical intrusion, particularly of the anterior lobe. The largest amount of tissue removed from a single gland in this series was 75 grams (Fig. IV). Recently the operator has removed as much as 47 grams at a single sitting.

The operating time is limited strictly to one hour or less; if all of the obstructing tissue is not removed during this time the operation is discontinued and the patient returned to his room for from seven to ten days. Following this interval the remaining tissue is resected. The second operation is usually much easier than the first one. The tissue cuts more readily and there is less bleeding.

Bilateral vasectomy is done in all instances. In the few cases where this has not been carried out, the difficulties with epididymitis occasionally have been greater than the entire operation itself. The ligation is usually done immediately after giving the anesthetic.

Spinal has been the anesthesia of choice. Procaine crystals are employed in small doses ranging from 50 to 85 milligrams, which are ample. With the use of such small amounts of procaine it is unusual to have nausea, vomiting or marked drop in blood pressure. Failure to obtain satisfactory anesthesia is infrequent, but in using such small doses of procaine we have no hesitancy in giving a second injection. I have had occasion to do this four times and believe it is preferable to supplementing the original injection with an inhalation anesthesia. These elderly patients do not appear to tolerate gas or ether well.

NEXT to the operation in importance stands the postoperative care. At the end of the resection the field should be as free from hemorrhage as possible. Fragments of tissue, blood clots, etc., are evacuated. A Foley hemostatic bag with a two-way irrigating device is then passed into the bladder. The bag is distended with from 30 to 40 cc. of sterile water and is pulled against the bladder neck with gentle traction. We do not try to pull the bag into the cone-shaped excavation but rather to exert gentle pressure

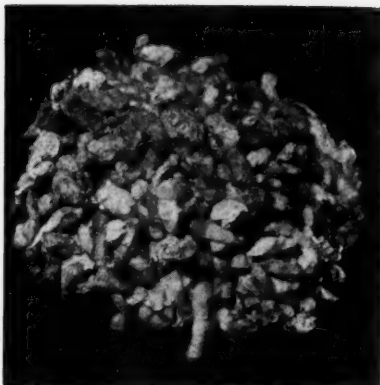


Fig. IV.
The above photograph illustrates the volume represented by 75 grams of tissue. This is the largest amount of tissue removed by the author in a single case.

against the bladder neck. The bleeding comes principally from the rim rather than from the inside of the cone.

1-10,000 silver nitrate solution is used in a continuous irrigating device and it is started immediately. This device consists simply of an ordinary Murphy drip apparatus (Fig. V) connected to the intake, and a drainage tube on the outlet. Particular emphasis should be placed on the importance of starting the continuous irrigation as quickly as possible; only the minimum time should elapse between the completion of the operation and the starting of the irrigation. If an interval longer than 15 or 20 minutes occurs blood clots will form. Continuous lavage is maintained for 48 hours. The indwelling catheter is not removed until 72 hours have elapsed. Earlier in our series the catheter was removed in 48 hours and occasionally a sharp rise in temperature was observed following the removal of the catheter on the second day. This reaction is much less frequent when the catheter remains for three days. The patients are out of bed on the third day and over half of them are able to leave the hospital on the sixth day following the operation. After the catheter has been removed some dysuria and frequency are present for several days. The

patient is usually tested for residual urine once or twice before being dismissed from the hospital. Frequent bladder lavage has been discontinued. If the patient complains that his stream is diminishing it is occasionally necessary to pass a sound, as inflammatory posttraumatic constrictions of the urethra occasionally occur. Most of these cases respond to one or two dilatations. Rarely a permanent stricture will develop necessitating periodic dilatations. The urine remains hazy for from eight to ten weeks; at the end of this period a course of a urinary antiseptic will clear up the remaining infection. Ammonium mandelate or sulfanilamide may be used for this purpose.

THE postoperative complications may be placed in three groups. The first group is composed of patients from whom insufficient tissue has been removed. There is a tendency to leave tissue around

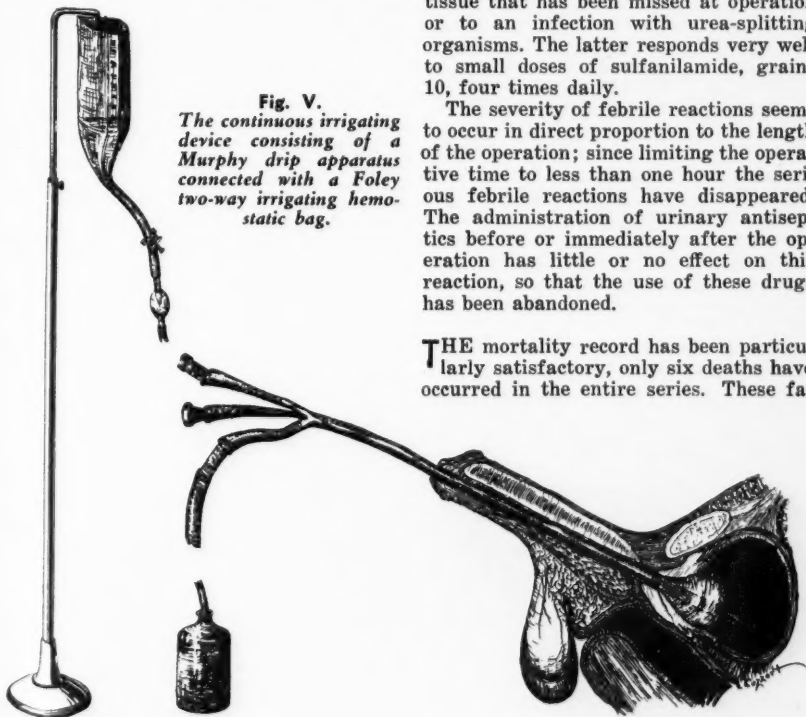
the veru montanum, especially in cases where the obstructing tissue extends distal to the veru. The operator is reluctant to take large "bites" from this location on account of the proximity of the external sphincter. This point represents the apex of the cone-shaped excavation, and only a small amount of tissue in this location may produce obstruction.

Hemorrhage is always a potential complication in any type of prostatic operation. Recently the incidence has been greatly reduced. Only two cases of this series required cystostomy for hemorrhage and these occurred in the first 100 operations. Occasionally a few clots will form in the bladder in spite of the continuous irrigation. When they cannot be aspirated with a piston syringe, through a soft rubber catheter, the cystoscope should be promptly inserted and the clot evacuator employed. Bleeding that occurs several weeks after the operation is usually due to sloughing of obstructing tissue that has been missed at operation or to an infection with urea-splitting organisms. The latter responds very well to small doses of sulfanilamide, grains 10, four times daily.

The severity of febrile reactions seems to occur in direct proportion to the length of the operation; since limiting the operative time to less than one hour the serious febrile reactions have disappeared. The administration of urinary antiseptics before or immediately after the operation has little or no effect on this reaction, so that the use of these drugs has been abandoned.

THE mortality record has been particularly satisfactory, only six deaths have occurred in the entire series. These fa-

Fig. V.
The continuous irrigating device consisting of a Murphy drip apparatus connected with a Foley two-way irrigating hemostatic bag.



talities were in the first 100 operations. The last 126 operations on 119 consecutive cases have been performed without fatality. Three of the six deaths occurred in patients with malignant glands. This leaves an operative mortality of less than 2 per cent in cases of benign hypertrophy. The mortality is slightly higher in the malignant group. These patients seem to lack the prompt come-back that is shown by those in the benign group.

Conclusions

1. Three phases of bladder neck obstruction have been discussed and a plea has been made for earlier recognition and treatment of this process in order to

prevent serious, lasting damage to the bladder and to the kidneys.

2. The technique of the transurethral operation has been outlined. It has been improved and developed, first, by the use of an improved type of resectoscope and, second, by the realization on the part of the operator that the major portion of the entire gland must be removed. The present status of the transurethral operation is that of a subtotal prostatectomy.

3. The author's experiences in a series of 226 operations on 188 cases has been presented. The mortality rate in the benign group is under 2 per cent. The last 119 consecutive cases have been successfully operated upon without a fatality.

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80 HANSON PLACE.



ASSOCIATED PHYSICIANS OF LONG ISLAND



*Autumn Outing in Jamaica,
September 28, Dinner at Pomonok Club*

THE Associated Physicians of Long Island will hold their regular autumn outing with golf, tennis and dinner in Pomonok Country Club and meeting in Mary Immaculate Hospital, Jamaica, Thursday, September 28, 1939.

Pomonok Country Club is on Kissena Boulevard between Jamaica and Flushing, but a short ride from Mary Im-

maculate Hospital. Golf and tennis facilities will be available all day and lunch may be purchased at the club. The dinner will be held in the club at 6:30 P.M.

Mary Immaculate Hospital is located at 89th Avenue and 153rd Street, Jamaica. The new fire-proof building is considered by hospital experts to be one of the finest institutions of its character. It represents an investment of over two and one-half million dollars. It contains every modern improvement for the care and comfort of the sick and injured.

In 1902, two nuns opened the Mary Immaculate Hospital in Jamaica in a small frame building on Fulton Street. Equipment was donated by neighbors and practically everything was second

—Concluded on page 450

SOME REMARKS ON THE CAUSE OF ESSENTIAL HYPERTENSION AND ITS PREVENTION BY

Psychotherapy

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THE psychological basis for hypertension is a blocking of the patient's occupational, sexual, family and social ambitions by fear. Fear of executing his aggressive tendencies brings about an inhibition of the organs of self-expression which in turn sets up a state of psychomotor tension. In attempting to relieve the psychomotor tension the individual's ego has two courses of action open to it: he may forfeit his ambitions permanently or he may retreat temporarily from the goal of realizing them. By either course of action he succeeds only temporarily in freeing himself from his original anxiety because his inadequateness and cowardice have injured his narcissism, which injury produces renewed psychomotor tension. To free himself permanently in the case where he forfeits his desires permanently, he must either (1) develop a personality change in the direction of a psychosis or (2) convert the physiological cardiovascular disturbance, with which he reacts temporarily in the form of an emotional hypertension, into a true organic disease pattern like essential hypertension. In the case of temporary retreat the personality must restore the self respect it has lost and to accomplish this must fight its own fear which now must be overcome. The conflict then continues within the self not as a purely psychological one but as one participated in by the vegetative organs. As long as he continues to have hope of overcoming his fear, he will renew the attempt to realize his aggressive desires, whether they be in the occupational, sexual, family or social spheres, whenever he be-

comes reasonably confident of success. In the meantime he may have found the opportunity of satisfying the requirements of the group or individual who have been the occasion of his frustration, or of satisfying the demands of his own conscience.

IN inverse proportion to the degree of confidence he possesses at a given time, he will experience the symptoms of fear during his attempts at realization of his desires. These symptoms are violent palpitation, acceleration of the pulse, muscular tension, tremors, dryness of the throat, perspiration and facial pallor; that is, the signs of marked excitation of the sympathetic division of the autonomic nervous system. This functional disturbance will interfere with his ability to put up a good fight, whereby he lowers his chance of winning. The cure is accomplished by successive trials in which there is an increasing degree of success sufficiently convincing to the personality that it is making progress in the healing of the wound which his narcissism has suffered. If he is given an opportunity to accomplish this through proper coaching and the insuring of success in overcoming smaller obstacles, he will later be able to overcome the somatic disturbance by reexternalizing the conflict. Then he will be able to generate just enough fighting materials (such as adrenalin and glucose) as he needs in exercising effectual action for the purpose he wishes to accomplish, and not find himself overwhelmed with an excessive supply at times when he doesn't need it—such as preliminary to the attempt or afterwards. We can readily see how an individual

who is a victim of such wrongly-timed excitation by reason of inner conflict, if these symptoms of excitation repeat themselves often enough, may in the course of time bring on a state of self-exhaustion. To avoid this, he may, where the personality assets are poor and he develops mental symptoms and has resort to excessive sexual practices, whether masturbatory or those induced spontaneously by a rich sexual phantasy life, in waking life, convert the cardiovascular excitement to one of chronic relaxation and hypotension, or where the patient's personality assets are too good to allow of any inferior mental and physical outlets he may in the course of time convert the symptoms from a conditioned neurosis according to Pavlov (emotional hypertension) to a disease like essential hypertension. When, on the other hand, he can be taught to keep his emotions controlled until the time when he needs his fighting materials, he will be helped towards the goal of re-externalizing the conflict. In emotional hypertension the patient's fight with his own fear is intermittent and appears in situations which are sensitized with the approach or presence of the opportunity of the realization of his ambitions. The fight while intermittent is dynamic and is still liable to a successful outcome. If, on the other hand, because of successive defeats the physiological resources of the individual have been used up and he has become stale, and his tissues inelastic, the fight with his own fear is lost or abandoned and the machinery is set up for essential hypertension.

THE personality elements at play in exciting the vasomotor apparatus are narcissism and masochism. The more narcissistic the personality make-up, the more apt is the patient to retain his emotional hypertension, and the more masochistic, the more apt is he to convert it into essential hypertension. In essential hypertension there occurs from the psychodynamic standpoint, a marriage of his narcissism to masochism, which is stabilized and fixed. In emotional hypertension the relationship between the two is a very loose one, masochism playing only an intermittent role which can be thrown off; but in essential hypertension it is bound deeply in the

unconscious self and operates more continuously so that the possibility of re-externalizing the conflict is indeed remote. For this reason it is doubtful whether any amount of psychoanalysis could accomplish much in essential hypertension and it would hardly pay in middle and late middle life. The usual medical care of regulation of the diet and adjustment of the environment with avoidance of exciting factors and the prescription of nerve sedatives is more appropriate.

Narcissism is fairly easily understood, but masochism is a more difficult concept and therefore a word about the psychology of masochism. It may be defined as the process of bringing injury upon the self whether by an outside agency or by the self, which process may be a conscious or an unconscious one. We are all familiar with cases of sexual masochism in which the pain is inflicted by the sexual partner. We are also familiar with the hysteric or psychotic who beats his breast or his head with his own fist, or with the religious recluse who does penance by fasting and praying by the hour, and with the expression "I could kick myself in the pants." In this class, too, come cases of suicide. These are all examples in which the individual is conscious of the physical mechanism by which the self-punishment or self-denial is applied. In certain accidents or losses, on the other hand, the masochistic process is cryptic or unconscious. The individual suffers bodily injury, misplaces, forgoes or makes a gift of something he himself very much desires or needs and rationalizes the injury or loss as something that cannot be helped or that presents various compensations. Instances of the operation of unconscious masochism, influenced by the sense of guilt, in which people betray themselves by the slip of the tongue, pen or in some form or another by which they convey the opposite of what they intend, are very numerous and familiar to most of us.

WE have said that the patient, confronted with frustration of his desires, is in dread of his own aggressive impulses because of which he develops an emotional state which amounts to an

anxiety neurosis. In his neurosis he enacts intrinsically what he fears to do in real life—that is, he produces the picture of the physical exertion incident to combat or flight. On examination of the heart, blood pressure and pulse, the physician obtains the same findings and readings as would be expected in a fighter after a round of fighting or in a runner after a hundred yard dash. How is this accomplished? In the same manner in which, principally in psychopaths, the so-called spontaneous erections are produced, namely, by the operation of phantasy in the absence of the female in person. In time, as the centers become sensitized from this abuse, phantasy tends to disappear from the picture and the erections become more strictly spontaneous. Then you have to do some analytic detective work and “cherchez la femme”. This phantasy, that is, doing mentally what should be done in reality, is present in both emotional and essential hypertension, but is hard to find, especially in essential hypertension. One might assume that the various vasomotor centers are differently sensitized in the two instances; in emotional hypertension the degree of sensitivity of the centers diminishes from above down and essential hypertension from below up. That is, in essential hypertension the degree of sensitiveness of the vasomotor centers is shifted from the cortex to the bulb, thence to the spinal cord and finally to the sympathetic center, so that in the course of time what originally started out as a psychogenic phenomenon tends to become more and more an automatic one. In essential hypertension the induction of vasoconstriction is thus gradually assumed in increasing measure by the lower vasoconstrictor centers. When this shift reaches below the bulbar level the autonomic system is thrown permanently out of balance in that the normal inhibitory action of its parasympathetic division is no match for the now sensitized lower vasomotor centers which according to Alexander Lambert dominate the maintenance of active tone in the blood vessels. Vasoconstriction now goes on as a continuous process and the blood pressure is maintained at an elevated level. There is no corresponding acceleration of the pulse rate, once the case has been converted to one of essential

hypertension, because the steadily maintained high blood pressure creates humoral conditions which reflexly allow for the regaining of the normal inhibitory control of the heart rate by the vagus system. This is in accord with the fact that the main function of the vagus is slowing of the heart and not vasodilatation. A compromise is thus effected in which each division of the autonomic nervous system is allowed to reign supreme in its dominant function. In emotional hypertension the disturbance is more acute and at a higher level and is predominantly sympathetic in action, temporarily overriding the normal inhibitory control of the vagus system so that an accelerated pulse nearly always accompanies the hypertension. The acute disturbance in essential hypertensives in which not only the vasoconstrictor centers are stimulated but other centers such as the centers for urination, is further illustrated by the frequent inability to relax the urinary sphincter and empty the bladder during the periods of vasomotor excitement.

WHILE this is going on at the physiological level, the masochistic process is burying itself deeper and deeper in the unconscious at the psychological level and reversibility with repjection and externalizing of the conflict becomes impossible. The masochistic process tends to bind the anxiety at an organic level and at the expense of the patient's physical health and life. This is well stated in the expression “What wouldn't I give for a little peace of mind.” The masochism succeeds in dominating the narcissism to which it is wed just as at the physiological level the sympathetic system succeeds in dominating the parasympathetic with which it is so intimately associated as antagonist. All this conforms with Cannon's idea that the function of the parasympathetic is to stimulate activity and dissipate life, as well as with Freud's theory of the life and death instincts. The two primary instincts of life and race preservation are shifted from the social level to the organic level by the action of the masochistic process. The patient preserves the external object of his frustration but injures himself; he saves himself from

immediate danger but pays a premium on the length of his life. He eroticizes the general arterial tree at the expense of erection of the penis, thus sacrificing genital activity and its pleasure for general circulatory activity and its anxiety. He generalizes his trouble instead of localizing it so that from a prognostic standpoint there is as great a difference as between a septicemia and a localized infection. The emotional hypertensive does this only on occasions, and he is aware of the disturbance, but the essential hypertensive is doing it all the time and is unconscious of it.

THE reciprocal relation between the sexual and systemic circulation is brought out by the fact that sympatheticomimetic drugs which whip up the systemic circulation, such as adrenalin, ephedrin and benzedrine sulfate have an inhibitory effect on erection by decreasing the vascular tone through stimulation of the vasoconstrictor fibers of the *nervi erigentes*, thus preventing the filling of the corpora cavernosa, while parasympatheticomimetic drugs like prostigmine and acetylcholine slow the heart and stimulate the vasodilator fibers of the *nervi erigentes*. It is interesting that this furnishes scientific proof for the saying "Faint heart never won fair lady." Here the wooer has stage fright with systemic vascular excitement and blushing but the penis is deflated like a flat tire; the mouth temperature registers the torrid zone but the penile temperature shows somewhere in the arctic regions. Impotence due to the failure of erection, for this reason, occasionally accompanies emotional hypertension. More often in emotional hypertensives we find that there is a hypersensitivity of the erection centers containing the neurones of the vasodilator fibers which produces easy and so-called spontaneous erections, which may be concurrent but more often alternates with the vasomotor excitement affecting the systemic circulation. In these individuals the sexual instinct escapes repression by reason of a less rigid conscience and a heightened narcissism. Where the two types of excitement exist in the same individual, the emotional hypertension is less apt to be converted

into an essential hypertension by reason of the fact that the sexual impulse is allowed rather free expression in the erections produced in real life or spontaneously by the action of fantasy in waking life or in the form of nocturnal emissions. In those cases, on the other hand, where through the action of a more rigid conscience and a heightened masochism in the personality make-up, the sexual instinct is more deeply repressed and the sexual impulse inhibited or suppressed, either with or without actual impotence, the process is more apt to go on to a true essential hypertension. Because of the reciprocal relations between the general and sexual circulation, the increasing stability and control of excitation of the general circulation brings with it increasing relaxation of the vasoconstrictor center controlling erections, thus allowing for overfilling of the corpora cavernosa. Partial impotence, in the form of premature ejaculation, on the other hand, is due to hypersensitiveness of the ejaculatory center in the sacral cord and is easier to clear up than failure of erection. It is corrected by relaxation of the ejaculatory centers through the operation of increasing cortical inhibition. The improvement here coincides in time with the ability to control the general vasomotor excitation and bring about a lowering of the blood pressure, which takes from twenty to fifty psychoanalytic sessions. On the other hand, the reduction in the pulse rate is more difficult, requiring somewhere from one hundred to five hundred psychoanalytic hours and closely parallels, in point of time, the cure of a case of total impotence or failure of erection.

CLINICALLY there are few cases of pure emotional or pure essential hypertension, most cases presenting mixtures of both in varying proportions. I have observed how in essential hypertension there is a fluctuation in both systolic and diastolic blood pressure, especially in the systolic, which sometimes would change a hundred millimeters of mercury in a few moments. On the other hand, I have observed cases of known emotional hypertension in which the blood pressure remained

steadily elevated during the period of a full hour's examination; where, in spite of the known emotional basis, no amount of suggestion or assurance could induce a lowering of the blood pressure. This applies equally well to the acceleration of the pulse rate.

It is felt that the treatment of emotional hypertension is important, on the theory that it is the precursor of essential hypertension. Emotional hypertension has its onset usually in puberty and adolescence and it takes fifteen to twenty years before it is converted into a case of essential hypertension which is discovered in middle life. Preventive medicine can do a good deal for essential hypertension and its sequelæ and the prolongation of health and life by treating emotional hypertension early in life. Insurance companies are correct in their policy rejecting emotional hypertensives and tachycardiacs at the present time because the emotional hypertensive is the potential cardiac, nephritic, hypertensive encephalopath, or hemiplegic. Cases, however, ought to be accepted in the event that the individual through treatment has demonstrated consistent capacity to control the blood pressure and pulse. It is important for this reason to distinguish clinically between essential and emotional hypertensives. It is more important to differentiate the two in order to select suitable cases for psychotherapy. In selecting ideal cases for psychotherapy, the physician must not only differentiate between emotional and essential hypertensives, but also between the emotional hypertensives that are sexually repressed and those that are not—the ideal cases for psychotherapy being the emotional hypertensives that are sexually repressed. By way of digression, it is interesting that patients who are repressed as far as occupational, family, or social ambitions are concerned, but who are sexually incontinent or self-indulgent either in real life or due to the effects of the activities of their sexual fantasies, do not develop hypertension, but rather various neurasthenic, hysterical, psychasthenic, or even paranoid states. In fact these patients are often found to be hypotensives. It is fairly certain that the sexual excitement if spent by the orgasm is the safety valve of systemic vasomotor ex-

citement, and it may even be predicated that it is the avenue of discharge of other forms of psychomotor tension, not released through properly sublimated activities. Even the more purely motor excitement of a scrap has a tendency to be released in this fashion, as is illustrated by the compulsive neurotic husband and the masochistic, hysterical wife who settle a long, heated argument by an act of intercourse, and yet are able to forget very easily how apparently irrational they both are.

TO return to the problem of differentiation, sexually repressed hypertensives are distinguished from those not so repressed by their (1) scant, colorless sexual history, (2) the numerous rationalized obstacles they put in the way of sexual gratification in real life, and (3) the relative quiescence or even absence of sexual activity in their fantasy life, in their day or night dreaming. Emotional and essential hypertensives may be differentiated according to the criteria shown on the following page.

Comment:

In the above remarks no claim to any originality is intended. Like many others, I am unable to keep up with the present literature and often cannot distinguish between what I have imbibed with the reading of past literature from those newer associations any one is apt to make from time to time, depending on the turn of his experience and the bent of his mind. The contributions that I do recall that have a bearing on this paper are from the writings of Freud, Cannon, Pavlov, Alexander Lambert and Bing, and to these men I wish to acknowledge my thanks. I realize that the above remarks are purely preliminary and subject to verification by the wider experience of others, and through more case studies in the future. The minimum that should be available are four case histories and analytic studies as follows: (1) a case of essential hypertension which shows sexual repression and the failure to find an essential hypertensive who does not show sexual privation, continence or repression; (2) a case of emotional hypertension without sexual

Emotional

1. The pulse rate is always elevated along with the blood pressure.

2. The pulse pressure is high due to the tendency of the diastolic pressure to remain low and to act independently of the systolic, in some cases reaching subnormal limits.

3. Subjectively the patient is aware of symptoms of cardiovascular excitement in the form of palpitation and flushing of the face. Or there may be an accompanying neuromuscular excitation which gives him a feeling of tremulousness, or he may complain of a choking sensation with a compulsion to swallow. The patient may tell you that he experiences these symptoms on approaching your office or feels relief from them on leaving the office. He may be able to tell you "now I'm all right," at which times the examiner may obtain lower readings momentarily of the B.P. and pulse.

4. Objectively the patient shows manifestations of psychic tension. His manner is nervous, the facies may have an anxious or apprehensive look and the complexion shows the peculiar pallor of vasoconstriction which is to be distinguished from the pallor which precedes syncope or accompanies shock. The extended fingers may show a fine tremor.

Essential

The pulse rate is usually within normal limits in spite of the high blood pressure unless there is some other disease condition accompanying the hypertension.

The pulse pressure is not high due to the tendency of the diastolic pressure to keep pace with the systolic.

Subjectively the patient is usually unaware of cardiovascular excitement or other symptoms of sympathetic overactivity.

Objectively the patient shows none of these outward evidences of emotional conflict or sympathetic overactivity.

repression who in the lapse of years does not develop into a case of essential hypertension; (3) a case of emotional hypertension with sexual repression who was left untreated and in the course of time developed essential hypertension; and (4) a case of emotional hypertension who was given intensive analytical treatment, and after observation for ten to thirty years failed to develop essential hypertension.

Conclusions

(1) There are two kinds of essential hypertension; emotional and true essential hypertension.

(2) There are two kinds of emotional hypertensives; those sexually repressed and those not so.

(3) Essential hypertensives all show rather marked evidences of sexual privation, continence or repression.

(4) Psychoanalysis is the method of choice in sexually repressed, emotional hypertensives.

(5) Emotional hypertension is the precursor of essential hypertension in those cases of emotional hypertension which are sexually repressed and are left untreated by psychoanalytic therapy.

(6) Preventive medicine can do a great deal for essential hypertension

Chart showing the differentiation of emotional and essential hypertensives according to the various criteria indicated by the author on the preceding page of this article.

and its serious sequelæ by selecting cases of sexually repressed emotional hypertension and subjecting them to psychoanalysis.

(7) In clinical practice, most cases of hypertension are mixed emotional and essential, and the differentiation as to whether a given case is predominantly emotional or essential is difficult but very important to make. In general it may be said that while emotional hypertensives are difficult to cure, and psychoanalysis lengthy and expensive, a cure is possible and treatment worth while, and that while essential hypertensives have a small component of the emotional factor which is residual and still labile, and can derive some benefit from psychoanalysis, the benefit is little and analytic treatment not warranted, and that for them general medical and psychiatric care is the method of choice.

450 WASHINGTON AVENUE.

Calcinosis

REPORT OF A CASE

FRANK S. CHILD, M.D., F.A.C.S.
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CALCIUM metabolism is one of the extremely complex mechanisms of the body as yet poorly understood. Disorders in the calcium metabolism are many and varied. Deficient calcium metabolism in the infant produces rickets; in the adult the result is osteomalacia. An excessive calcium metabolism, on the other hand, may result in deposition of calcium in abnormal situations. This is known as calcinosis.

The normal process of calcium deposition, as in bone formation, is termed calcification. By many pathologists the term calcification is applied to all calcium deposition. Smith and Gault¹ express the opinion that normal calcium deposition should be termed ossification, and that abnormal calcium deposition should be termed calcification. To the essayist the term calcinosis seems more descriptive of the case to be recited.

Case report:

D. F., female, age 27, mother of 2 children. Married. Referred by Dr. Roland C. Jones. Admitted to the Mather Memorial Hospital September 30, 1938, with the following history: When patient was a baby fell fracturing the left forearm at about the middle. Has no recollection of any disability following

union of fracture until age of twelve. At that time had an operation for removal of "about seven tumors" from the left forearm. Following this operation the patient stated she had a drop wrist due to an apparent paralysis of the extensors of the wrist. Three years ago she had several "fat tumors" removed from the left chest. Soon after this operation she noticed contraction of the flexors at the left elbow. This has become more pronounced during the past year.

On examination it was noted that the

left forearm was definitely shorter than the right. There was a drop wrist with ulnar deviation, contraction of the flexors of the wrist and fingers, paralysis of the extensors of the wrist and contraction of the flexor muscles at the elbow. The forearm was greatly enlarged, hard and nodular, and not painful except on firm pressure. The skin was tight and glistening but not adherent, and bluish

white in color. There were several soft but firm, painless tumors in the left upper arm on the flexor surface. There was a small firm tumor above the left breast. No other abnormalities were noted.

THE chief complaint of the patient was pain in the left forearm, particularly on flexion of the fingers, and deformity of the hand.

ASSOCIATED PHYSICIANS OF LONG ISLAND

Scientific Session at the Nassau County Sanatorium, Bethpage (Farmingdale) June 1, 1939.

Calcinosis

Frank S. Child, M.D., F.A.C.S.

Hepatic Cirrhosis

*Charles C. Murphy
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X-ray examination showed amorphous calcification throughout the left forearm, but not intimately associated with ulna nor radius. There was no calcification in the upper arm. On the basis of the x-ray findings a diagnosis of myositis ossificans progressiva was made.

Under general anesthesia the forearm was opened and a section of tissue removed for examination. The tumor above the left breast was also removed. The tissues in the forearm were very vascular and there was considerable hemorrhage. Following operation the patient stated she was free of pain.

DR. Reidar Trygstad reported on the tissue as follows: In the section from the forearm the muscle fibers appear atrophied and there is an increase of connective tissue between them. There are calcium deposits in inflammatory connective tissue stroma. There is no evidence of bone or cartilage cells. Pathological diagnosis is chronic myositis with calcium deposits. An analysis of the calcium deposit showed calcium salts 92 per cent of which calcium phosphate was 68 per cent and calcium carbonate 32 per cent, a ratio of approximately two to one.

The tumor from the chest wall was a nonmalignant cellular fibromyoma, probably an aberrant breast.

The diseases which have characteristics resembling this disease are myositis ossificans progressiva, myositis ossificans, and dermatomyositis with calcification.

The absence of bone and cartilage cells would seem to eliminate myositis ossificans of both types, except that there is sometimes a latent period of several years between the stages of calcification and ossification in the progressive type. The history of trauma might suggest myositis ossificans but the calcification is too extensive and ossification is not usually delayed. Myositis ossificans progressiva is not associated with trauma. Boyd² states that by many it is considered to be a congenital anomaly as it is frequently associated in children with congenital defects. Then, too, the disease is extremely rare and usually

begins in the erector spinae muscles. So far as is known it has a fatal termination.

Smith and Gault³ state that in both forms of myositis ossificans the calcium deposit and ossification begin in the fibrous tissue sheaths and septa of the muscles.

DERMATOMYOSITIS, like myositis ossificans progressiva, is a disease of unknown origin. The onset is acute and painful with involvement of most of the musculature of the body. Steiner⁴ gives the pathological findings in this disease as muscle infiltration and degeneration, and marked increase in connective tissue in advanced cases. There has been no history of a general myositis nor acute onset so that the possibility of calcium deposition following dermatomyositis is rather remote.



Fig. 1. Calcinosis of forearm.



Fig. 2.
X-ray of calcinosis.

IT is the opinion of Smith and Gault¹ that the abnormal deposit of calcium salts never occurs in healthy tissue.

References

1. Smith, Lawrence W. and Gault, Edwin S., *Essentials of Pathology* p. 64.
2. Boyd, William, *Surg. Pathology* p. 787.
3. Smith, Lawrence W. and Gault, Edwin S., *Essentials of Pathology* p. 857.
4. Steiner, Walter R., *Oxford Med.* Vol. iv, Chap. xiv, p. 353.

201 EAST BROADWAY.

This patient had fibroid tumors. She also had trauma sufficient to produce necrosis in these tumors. Hence it is reasonable to imagine that the breakdown of the lipoid material in these tumors into fatty acids and subsequent insoluble calcium salt saponification might be the explanation of the calcium deposition in the forearm.

No treatment is known.

Summary

A CASE of calcinosis in an adult, involving the left forearm, has been presented. The onset occurred in childhood. A history of a fracture in the forearm when the patient was a baby would suggest trauma as a causative factor: other factors being subcutaneous fibroid tumors and abnormal calcium metabolism.

Biopsy is necessary for diagnosis. Other diseases to be considered in determining the diagnosis are myositis ossificans, myositis ossificans progressiva, dermatomyositis with calcification. No satisfactory treatment is known.



ENTERECTOMY IN THE SURGICAL TREATMENT OF

Hepatic Cirrhosis

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ATTEMPTS to treat parenchymatous disease of the liver constitute a somewhat discouraging chapter in medical

history. The material here offered holds promise of therapeutic helpfulness and suggests further clinical application.

The use of a high carbohydrate diet is well-known. The time-honored administration of diuretics which was in vogue ten years ago is less popular today

because a response appears to be difficult to obtain among the majority of the patients who have damaged livers. Tapping is only palliative, but does relieve distress and the interference with cardiac and pulmonary function which large accumulations of fluid entail.

The various surgical procedures for relief of ascites have been disappointing. Permanent abdominal drainage with glass tubes or Paterson's glass collars has not produced satisfactory results. The same can be said of continuous hypodermoclysis. Eck's fistula has been abandoned because of the risk. Rouette's operation, viz., implantation of the saphenous vein into the peritoneal cavity, often results in occlusion of the anastomosis and obliteration of the saphenous vein. The Talma-Morison omentopexy used so frequently has been disappointing and it cannot be recommended wholeheartedly.

ON the theory that accumulation of ascitic fluid in cirrhosis is due in a large part to partial obstruction of the portal circulation in the liver by nodular regeneration of glandular tissue and gradual contraction of increased connective tissue, the hypothesis was developed, by Fuller and Cook *et al.*, that obliteration of part of the portal bed by resection of several feet of small intestine might decrease the returning venous blood to an amount which might pass through the cirrhotic liver, thereby decreasing the pressure in the portal veins and capillaries and diminishing the transudation from the portal system into the peritoneal cavity.

Of the four important reasons underlying the theory in the development of this procedure, the first (mechanical) is the most obvious, namely, that obliteration of part of the portal venous bed by enterectomy will result in a decrease in the amount of portal blood entering the liver.

The second (physiochemical) is more hypothetical though based upon Heidenhain's classic experiment in which he demonstrated that hypertonic solutions of crystalloids in an isolated segment of small intestine increased in volume at the expense of water drawn from the intestinal circulation.

In this part of the theory we propose the possibility that in the remaining small intestine following enterectomy with the same amount of food and gastric, hepatic and pancreatic secretions the relatively higher concentration of osmotically active particles present in relation to the surface area of the intestine should tend toward a slower absorption of water into the capillary blood of the intestinal wall and furnish on the venous portal side of these capillaries a more concentrated blood of less fluid volume. The water content of the feces should be increased. This is reasonable in view of the tendency to softer stools following massive enterectomies.

THE third reason takes cognizance of the generally known physiological fact that living membranes become more permeable in the presence of oxygen lack or metabolic waste product increase. In cirrhosis of the liver, because of the slowing of the portal stream, the venosity of the portal blood should be increased. Therefore, any procedure aimed at decreasing the venosity of the portal blood should lessen the permeability of the portal capillaries and other membranes and, by furnishing to the liver a less venous blood, increase the chances of regeneration of liver tissue.

Fourth, the removal of several feet of small intestine changes the ratio of visceral peritoneum to parietal peritoneum. Assuming that the ascitic fluid transudates through the viscera and is absorbed by the parietal peritoneum, removal of several feet of small intestine with its peritoneum should favor absorption of any fluid formed.

Case Report

FIRST admission to the hospital in 1934 for diagnosis—white female, age 45. Onset indefinite. Chief complaint: sense of fullness and heaviness in the epigastrium accompanied by weakness and fatigability. There were no definite gastro-intestinal symptoms, no jaundice, ascites or edema of the extremities. The liver was palpable 4 centimeters below the costal margin. Weight 132 lbs., pulse 84, blood pressure: 130 systolic, 70 diastolic. Her previous history was largely negative. The patient was a

self-confessed alcoholic, drinking from one-half to one pint of whisky daily. Wassermann and urinalysis were negative. G-I series: negative. She was treated for two years with the usual diuretics, salyrgan, theocin, etc., and a high carbohydrate diet with some relief of her ascites on two occasions.

On July 6th, 1936, she re-entered the hospital for surgery. At this time there was a weight loss of 25 pounds, pulse 92, blood pressure 146/76. She was thin, emaciated, her abdomen tense and markedly swollen, liver not palpable, feet and ankles slightly edematous. Her urine and blood chemistry were within normal range, hemoglobin 75 per cent, r.b.c. 3,800,000. Menses were regular until four months previous.

On July 7th, through a right rectus incision, a Talma-Morison operation for omentopexy was performed. Findings: the liver was slightly smaller than normal and uniformly nodular throughout; color: tawny yellowish brown. The patient made a good postoperative recovery.

FIFTEEN days postoperative, paracentesis was performed and 12,000 cc. of clear straw-colored ascitic fluid were obtained. Paracentesis record as follows:

July 22, 1936	Jan. 10, 1937	Oct. 19, 1937
Aug. 7, "	25, "	Nov. 10, "
20, "	Feb. 9, "	16, "
Sept. 5, "	23, "	Dec. 14, "
19, "	Mar. 6, "	Jan. 10, 1938
Oct. 2, "	22, "	30, "
16, "	Apr. 6, "	Feb. 18, "
30, "	27, "	Mar. 4, "
Nov. 15, "	May 27, "	18, "
28, "	June 22, "	Apr. 1, "
Dec. 12, "	July 20, "	16, "
26, "	Aug. 24, "	25, "
	Sept. 22, "	

Approximately 12,000 cc. were obtained on each tapping.

After consultation with Drs. Fuller and Boles, massive enterectomy was decided upon. The patient entered the hospital April 5th, 1938, age 49, poorly nourished, with marked anemia and sclerae slightly tinged. Blood pressure 140/80, urine negative, blood chemistry normal, icterus index 10, urea nitrogen 14, creatinin 1.5, N.P.N. 28, hemoglobin 22 per cent, Rbc 1,900,000. After three transfusions, 500 cc. each, hemoglobin: 65 per cent, Rbc: 3,700,000.

Operation May 5th: The patient was tapped the night before, saving time and

messiness at operation. Through a left rectus incision, beginning three inches above the level of the umbilicus and extending downward for five inches, six feet and four inches of small intestine were removed, beginning twelve inches below the duodenojejunal junction. An isoperistaltic anastomosis side to side was done. The wound was closed without drainage. The patient ran a fairly normal postoperative course, the highest pulse, temperature, and respiration being 90, 100, and 20 respectively. Two weeks postoperative, hemoglobin: 56 per cent, Rbc: 3,000,000.

SHE was given 500 cc. of 10 per cent glucose intravenously at 12 hour intervals for the first 24 hours, and placed on a meatless diet during her residence in the hospital. The sutures were removed on the ninth day postoperative, after which time there was an escape of ascitic fluid from the lower end of the incision. This persisted in small amounts every five or six days until July 9th, 1938, when drainage ceased. There were no tappings after operation and no drainage two months postoperative.

The general condition of the patient was somewhat improved. Liver extract and thiamin chloride were given on alternate days with apparent beneficial results. She had occasional attacks of lower abdominal distress, accompanied by nausea and vomiting. She had no appreciable bowel difficulty, although occasionally she took milk of magnesia for constipation. There was occasional diarrhea.

This patient was in fair health and spirits until the latter part of September, when she became dyspneic and slightly cyanosed and had a small amount of edema of the tissues of the back, lower abdomen and thighs. At that time, blood pressure: 180/90, pulse: 110, temp.: 99.8, resp.: 26. Urinalysis was negative, with the exception of a trace of albumin. Her daily output was approximately 30 to 40 ounces, her fluid intake being 50 to 60 ounces in 24 hours.

The patient's condition remained about as usual. She was up and about the house and able to get out for automobile rides until Oct. 23rd, when she had

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MENTAL HYGIENE NOTES

Complaint Problem:

MOTHER states that patient is "awfully nervous"—sensitive to excitement, hands shaky, hard to walk, difficulty in dressing. "We are heart broken over him." Patient states that he is stiff, all slowed up, has difficulty in speaking, and drools.

Present Illness:

THE latter part of 1937 he tried to join the Navy but was refused. He states that this was due to discharge from left ear of eight years duration. He was also observed to be a little nervous and was told, "You are not the type to join the Navy." Although he was somewhat "shaky" there was no lameness. He does not recall, about this time, having had any "head colds," influenza, fever, or other conditions disturbing to his usual good health. In January, 1938, while in classroom (final year of high school), he became so "shaky" when he was asked to recite before his class that he refused. He stated that his face became red, then hot "like burning up," and soon he was sweating. This was immediately followed by the feeling, "I got all white." Since then he has tremor every day. This affects mostly his fingers and hands, especially the left. By April, 1938, he acquired some

flexion of his left forearm and soon afterward he was noticed to limp, favoring the left foot. This resulted in taking longer steps and inability to walk so far. Especially was this a handicap in attempting to earn money as a caddy last summer. He noticed himself lacking his usual pep and lost a little weight although appetite and sleep were and are good. It became more difficult to do

things with his left hand, his dominant hand before present illness. Consequently he has trained himself, with some difficulty, to a right-handed status. His speech also became gradually affected: "I get all mixed up when I want to say anything. I want to speak faster than it comes out. I then have to say it over again slower." Because of sensitiveness over nervousness he denied himself the advantages of postgraduate high school studies last autumn. Since then

he has been employed on a N. Y. A. project three hours daily, taking care of a furnace in a boys' club. At times he feels somewhat frustrated and depressed. "I don't seem to be getting any better. What will I do with myself?" He feels best on awakening, at which time he is practically free of tremor. This doesn't become very obvious until about ten A.M. A short time ago he stopped going to church and Sunday

CASE NOTES IN EXTRAMURAL PSYCHIATRY

Case X

POSTENCEPHALITIC PARK- INSONISM IN A TWENTY- TWO YEAR OLD WHITE MALE

FREDERICK L. PATRY, M.D.

Albany, New York

school, claiming that certain gossips in his small village stated that his present illness is due to going out with too many girls. Patient admits going out with girls on occasion since age of 16 but denies any intimacies. Since the summer of 1938 he stopped his interest in girls as he felt "too nervous." Occasional masturbation without conflict.

Personal History:

THE third oldest of six children, he experienced a natural birth and developed within the usual norms. Mother states that "Most all of my children are nervous—easily jump off the handle." He did "fairly well" in the elementary grades but "better" in high school. Eight years ago he contracted, while swimming (without ear plugs as ordered in a boys' camp), a middle ear infection on left side. This pained off and on for some three years and since then has discharged periodically. An ear specialist told him it would dry up with the use of a prescribed powder. The wax that comes out of the left ear "has a funny odor." Tonsils and adenoids were removed four years ago. Two years ago he was kicked by a horse and shortly afterward was hit on the knee with a golf ball, but neither of these traumata incapacitated him to any serious extent. Personality is described as sensitive, easily joshed, "can't take it." He enjoys a couple of boys he pals with and prefers to be with others than be alone. He likes walking, hunting, and golf but belongs to no boys' clubs.

Family History:

FATHER, aged 50, a bookkeeper, has been out of work since last November. As a consequence, he is irritable and picks on patient. He at times is depressed and says, "I might as well end it all." Mother, aged 53, is level-headed and the temporary "head" of the family. There are four sisters and one brother, age range 23-14, all well. The two younger ones are "slow in school."

Physical and Neurological Examination:

AN average sized, somewhat thin white male of asthenic habitus. Height, five feet seven inches; weight 127 pounds. Blood pressure 122/80. Thyroid normal.

Cranial nerves showed no defects except impairment of hearing left side, and a monotone-like, hesitant speech. Fundi normal. He walked and stood with a stooped posture and left limp, the left arm being flexed across chest. There was a coarse irregular tremor of tongue, fingers, and hands, the characteristic pill-rolling type obtaining especially on left side. He is able to take off and replace his shoes and socks slowly and with some difficulty. There is a marked rigidity of neck and extremities, more so on left side. The arms show the cog-wheel type of rigidity. The tendon reflexes are all increased. No Babinski or Hoffman. Sensation is normal. The face appears smooth and greasy looking, smiling with some difficulty. Mask-like facies. He blinks readily. Mouth shows increased salivation. Increased lacerimation.

Mental Examination:

A COOPERATIVE young man who presents a sympathetic attempt at smiling. He is neat and in good social contact. Stream of thought is connected and relevant. No abnormal trends of thought. Correctly oriented. Well informed concerning current events.

*Diagnosis**

POSTENCEPHALITIC Parkinsonism.

Prognosis:

BAD. Cure is not to be expected although remission or improvement with adequate treatment is quite likely.

Treatment:

HYOSCINE hydrobromide tablets, grain 1/200 per os three times a day, were prescribed in order to reduce the general muscular rigidity and to contribute to his sense of usefulness. Both patient and mother were reassured that although no promise could be made for cure, yet a long and useful life could obtain with the help of medical treatment and suitable work and recreational habits. He was encouraged to continue recreational pursuits of walking and games which involve large muscle ac-

* Patry, F. L. *The Diagnosis and Treatment of Postencephalitic Parkinsonism, With Case Reports.* Journal of Nervous and Mental Disease, 69:617-641, June, 1929.

tivity. Competition in games, however, should be guarded against as he should protect himself from undue excitement. An emotionally calm atmosphere both in and without the home is desirable. In view of difficulties in neuromuscular coordination, the mother's query to the effect that he should not drive the car was answered in the affirmative. A 24-hour schedule which respected regularity of habits concerning sleep, rest, prevention of undue fatigue, recreation, diet and elimination was urged.

Progress Notes (two weeks later):

THE mother stated that patient responded quickly to the hyoscine hydrobromide treatment. He became less nervous, showed more pep, and was able to walk farther with less fatigue. Patient states that he can move faster, that he enjoys himself more because he is able to accomplish a larger measure of activities. However, as was pointed out to him when the hyoscine was prescribed, his mouth gets dry and, consequently, he drinks some four or five glasses of water each day and chews gum. Eyes are rather blurry and, if he does not have a very bright light, he reads with difficulty. There is also some increase in perspiration. Objectively patient presented himself with a broad

smile. Spirits are obviously higher. Posture is now quite erect. Pupils are moderately dilated. He continues to work three hours daily taking care of a furnace in connection with a N. Y. A. project. It was suggested that he continue to ride his bicycle as this would have a wholesome effect upon muscular exercise and relaxation.

In view of the fact that during the second week he showed greater improvement over the first week, the dosage of hyoscine was not increased. However, increasing dosage will in due time be given, as patients showing parkinsonian features can stand large amounts, even up to 1/50 of a grain three times a day. To counteract excessive dryness of the mouth, small doses of pilocarpine nitrate, grain 1/20 to 1/10, might be given as required. Alternate drugs to be kept in mind, should the course in treatment indicate, are atropine and stramonium, both of which have been effective in ameliorating this type of encephalitis. The mental status must at all times be considered, as such patients are prone to emotional disturbances, particularly reactive depressive features and, therefore, require large doses of reassurance and encouragement in the things that they can do, at the same time accepting their limitations as objectively as possible.
214 STATE STREET.

ENTERECTOMY IN HEPATIC CIRRHOSIS

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a severe gastric or esophageal hemorrhage causing death within 48 hours.

Conclusions

I AM presenting one case of portal cirrhosis with ascites with 22 months of tapping following omentopexy and only slight temporary improvement in the rate of fluid accumulation beginning one year postoperative, thirty-five days being the longest interval between tapings, gradually returning to twelve to fourteen day intervals. Following massive enterectomy, there was no evidence of fluid accumulation after two months

postoperative. This patient was free from ascites for three months prior to death due to esophageal or gastric hemorrhage. Although this patient succumbed five months postoperative as a result of cirrhosis of the liver, the results obtained were sufficiently gratifying to occasion enthusiasm and I call your attention to a procedure which is worthy of consideration in suitable cases.

The case of Fuller and Cook, *et al.*, reported in 1937, was apparently well three and one-half years after operation, at which time the patient had been free from ascites for twenty-nine months.

Reference

Fuller, M. K., Cook, D. D. M., Walter, O. M. and Zbitnoff, N., enterectomy in surgical treatment of hepatic cirrhosis or portal obstruction with ascites, *Surg., Gynec. and Obst.* 65: 331-335, Sept. '37.



CULTURAL MEDICINE

PLATO, I said, in your earthly existence you achieved a great reputation as a philosopher, and also as a seer. You divined some great truths which were demonstrated scientifically centuries later. You knew that the earth was round, you glimpsed the law of gravitation, you saw clearly the law of relativity, you glimpsed the circulation of the blood, and you recognized the necessity for regulating population. You advanced far in wisdom. If you continued in your subsequent existence to increase in wisdom as might be expected, you must now be very wise indeed. May I ask you a few questions?

What are your questions? said Plato.

I should like to ask you, I said, why wars are still so much in evidence on the earth; why the progress of civilization along some high cultural lines seems to have been interrupted or slowed up; and why, notwithstanding great advances in the arts and sciences which should make human life larger, safer and more pleasant, human life in many regions of the earth is now more contracted, less safe and less pleasant than it was a few generations ago. And I would like to ask you to suggest a remedy for these world troubles.

I will go immediately to the root of the matter, said Plato. I will give you in two words the main cause of these troubles: overcrowding in spots, and a

rising tide of inferiority. And I will give you as the basic remedy: regulation of the population along eugenic lines.

Did you not go into that subject in your book, *The Republic*, which you wrote when on earth? I said.

Yes, said Plato. And I was much ridiculed on account of it. Yet what I said about the duty of the state to keep

the population from being too large or too small, and about the necessity for eugenic regulation of the population, in the main holds good.

There are two factors which have to be considered in this connection, the capacity of the earth to produce substances necessary for the support of human life, and the principle of population increase. The first factor cannot be expanded beyond

limits which are definitely fixed; the second has no intrinsic limit to its operation. These two factors tend to clash; and when they clash, and where they clash, troubles arise which regularly and naturally lead to war: the populations of the overcrowded regions encroach on their neighbors primarily to get food and other desirable things. I pass over the factor of personal ambition controlling large human masses, as of secondary importance in the causation of war. Human history abounds in examples of encroachment by overcrowded nations on their neighbors for the reasons mentioned. Illustrations of the operation of

An Interview **WITH PLATO**

EDWARD E. CORNWALL
M.D., F.A.C.P.

Brooklyn, New York

this natural cause of war are now being exhibited by Japan, Italy and Germany.

OVERCROWDING seems to be more menacing as a cause of war now than it was formerly. The natural rate of increase of population in civilized countries has recently been speeded up by improved hygienic conditions and advances in preventive medicine. The expectation of life at birth in civilized countries has nearly doubled in the last few generations.

The overcrowded nations have these choices: to reconcile themselves to having their population increase checked by the limitation of vitally important substances; to invade and rob, or attempt to rob, their neighbors of those substances or the means to get them, which is war; to relieve their overpopulation by emigration where possible; or to develop their industries so as to support their excess population by means of commerce.

I thought at one time that socialism was part of the answer to the problem; and in my book, *The Republic*, I advocated state socialism, even to the extent of community of families, along with eugenic regulation of the population. But increased knowledge convinced me that such socialism can not be reconciled with natural laws, the supremacy of which we acknowledge. The law of evolution requires too large an element of individualism in the organization of human society to permit of much formal socialism. It is true, that as human society becomes more complex, more individual rights have to be surrendered for the sake of the advantages of cooperation; but there is a limit to such surrender. Individualism, however modified, must always remain the dominant principle. So nature has ordained.

BUT discarding socialism except in a modified and subordinate sense, there remain numerical restriction of population where necessary, and its eugenic regulation always, as essentials in the treatment and prevention of the world troubles which you have mentioned.

Granting, I said, the soundness of your logic and the propriety of your remedy, there is the practical question of the application of the remedy. How can

eugenic regulation of the population be managed?

Eugenic regulation, said Plato, is necessarily a function of the state. The justification or excuse for the state to take on this function, is that the eugenics which nature practices, as part of her evolutionary plan, is slow and more or less painful. But this state regulation depends on human intelligence, which is imperfect, and it is subject to influences, particularly political influences, which can affect it unfavorably. To keep abuses out of its practical application requires an ideal condition of politics.

How would you go about getting the right kind of politics? I said.

I suggested the answer to that question in my book above referred to, said Plato. I recognized that government by politicians falls short of what is wanted because, to quote my own words, "no politician is honest." And I laid down as a necessary qualification for rulers of the state, that they "unite political greatness with wisdom," that is, be philosophers. This means that for the carrying out of a policy of eugenic regulation of the population, as well as for meeting other demands of man's increasingly complex social organization, a scientific form of government is required.

But in regard to eugenics, I said. How about the likelihood that some apparently undesirable individuals, who nevertheless would be of advantage to civilization and the community, would be lost in the carrying out of the eugenic policy? And how about the accusation that medical science, by preserving physically and mentally inferior individuals and making the struggle for existence too easy, is interfering with evolution?

I FIND nothing in what you say, said Plato, which contradicts my thesis, that the eugenic regulation of population is for the best interests of the human race. If medical science is preserving the weaklings, it is also safeguarding the superior individuals. And the progress of civilization, the improving of the conditions of human life and the increasing of its values do not depend altogether on the development of the qualities which enable man to overcome hard

physical conditions. The survival of many apparent weaklings has advanced civilization in the past, as you suggest. But in the saving of the weaklings, discretion must be used; and this discretion can be used only with approximate wisdom. And it is proper, in this connection, to bear in mind that civilization imposes on us certain obligations, certain restraints in conduct, which we refer to as appertaining to humanity. Any plan of eugenic regulation of population, to be acceptable, must properly regard humanity.

But, I said, would not a democratic form of government serve the purpose as well as a scientific form of government, if by eugenic regulation of the population the right kind of citizenry has been secured?

When the right kind of citizenry has been developed by selection, exclusion and education, said Plato, the scientific form of government follows naturally; it will function as a matter of course. But during the interim, while this development of the citizenry is going on, guidance from the top is necessary. The problem here is how to select the right guides. Plain democracy is not sufficient. Not so many years ago Professor Shaler said that no republic can long endure whose citizenry has not a fairly high general average of intelligence and sense of civic responsibility.

But, I said, how about the mechanical inventions which make it possible for the ignorant, weak and vicious to destroy the intelligent, strong and worthy?

For a suggestive answer to that question, I refer you to history, said Plato. Ancient Egypt developed along certain cultural lines to a remarkable extent, and maintained this advanced cultural state for nearly four thousand years. An important factor in this accomplishment was her policy of confining the higher knowledge to a small class of the more intelligent of the population, thereby preventing its wrong or dangerous use by the ignorant or evilly disposed. In order to safeguard inventive genius and keep its productions in safe hands, pending the development of the population up

to a sufficiently high general level of intelligence and culture to make possible the operation of a scientific form of government, it may be necessary for the wiser few to use their superior intelligence to secure political control.

BUT would not that be fascism? I said. Fascism, as it has been exhibited, said Plato, is a caricature of the plan of social salvation which I am trying to suggest in outline.

But can present democracy do what you suggest? I said.

Democracy rules through representatives, said Plato. If by a remote chance the right kind of representatives should be selected, the eugenic plan might go through with speed and success. Not expecting such a miracle, the best approach seems to be by securing the establishment of such a high qualification for the suffrage, that all who exercise it would have a reasonable amount of intelligence and sense of civic responsibility. This method of dealing with the problem has to overcome the difficulty presented by the rising tide of inferiority which results from the failure of the more intelligent and capable classes to multiply as fast as the less intelligent and capable classes. This rising tide of inferiority threatens to swamp democracy unless it is protected by a high suffrage qualification, or other safeguard.

But if democracy fails to safeguard itself, I said, and the tide of inferiority continues to rise, and fascism follows misguided and destructive courses, and communism sabotages the machine, what will happen to the civilized world?

A smash up, said Plato, with the remnants starting over again.

ONE question more, I said. If democracy fails to safeguard itself, and the less capable majority, using the democratic forms, decide that the state shall support them, what will be the condition of the more capable minority?

They will be slaves, said Plato, working to support the others—until the smash up comes.





CONTEMPORARY PROGRESS

Visual Disturbances Associated with Tumors of the Temporal Lobe

H. S. SANFORD and H. L. BAIR
(*Archives of Neurology and Psychiatry*,
42:21, July, 1939)
report a study of
the visual disturb-
ances in 211 cases
of tumor of the
temporal lobe from
the Mayo Clinic, in
which the diag-
nosis was verified
by biopsy, autopsy,
or by removal of gliomatous cystic fluid.
The most important visual disturbance
in temporal lobe tumors was found to
be defects in the visual fields. Careful
studies of the visual fields were made
in 111 cases—over half the series; de-
fects of diagnostic value were found in
80 or 72 per cent of these cases. In the
group in which only a rough examina-
tion of the fields was possible defects of
diagnostic value were found in only 42
per cent. Homonymous hemianopia was
the most common visual field defect, oc-
curring in 66 cases, or 55.9 per cent of
the 111 cases in which careful visual
field studies were made. Homonymous
quadrantic defects occurred in 52 cases.
A comparison of these figures with the
findings in a series of occipital lobe
tumors showed that homonymous hemi-
anopia was the most common visual field
defect in both groups, but that quadrantic
defects were more frequently associ-
ated with temporal lobe tumors than
with occipital lobe tumors. Sparing of
the macula occurs in both groups of
tumors, but was found to be more com-
mon and of greater degree in occipital
lobe tumors. In the 52 cases of temporal
lobe tumors in which autopsy specimens

were available there was no instance of
sparing of the macula. Incongruous
homonymous visual field defects were
found in temporal lobe tumors that in-
volved either the lateral aspect of the
homolateral optic tract or the begin-
ning of the genicu-
localcarine fascicu-
lus; in the former
case, the larger de-
fect was found in
the field of the ho-
molateral eye, in
the latter in the

field of the contralateral eye. In this
study definite evidence was found to in-
dicate that there is a "forward looping
of the geniculocalcarine fasciculus", as
described by Meyer; but no satisfactory
evidence was obtained either for or
against the presence of "a crossing bun-
dle of fibers to allow representation of
each half of the retinal macula in both
occipital lobes". Visual disturbances
other than visual field defects were not
found to be of diagnostic value in the
diagnosis or lateralization of temporal
lobe tumors. Visual hallucinations were
noted in 22 cases or 10.4 per cent of
the series of 211 cases; the hallucina-
tions were formed in 11 cases and un-
formed in the other 11 cases; this does
not substantiate the belief that formed
hallucinations occur most frequently in
temporal lobe tumors.

COMMENT

*This paper is an excellent addition to a
large number of papers on the study of
visual fields with special reference to
growths in the temporal lobe. The high
percentage of quadrantic field defects in
tumors of the temporal lobe is refreshingly
significant and a striking bit of evidence in*

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favor of a routine study in every suspected instance of a tumor of the brain. Where the cooperation of the patient can be obtained there is no excuse for the failure of the clinician to chart the visual fields. We are justly impatient with those who through ignorance or gross carelessness do not insist on an examination and actual charting. As in other lines of endeavor constant repetition develops confidence, speed and skill in the examiner, so that when deviations from the normal are found, they can be readily interpreted.

It is important to note that unformed visual hallucinations occur with equal frequency in tumors involving the temporal and occipital lobes.

H.R.M.

Clinical Investigation of Olfactory Function in Brain Tumor Patients

J. D. SPILLANE (*Brain*, 62:213, June, 1939) reports the use of Elsberg's olfactory tests in 140 persons, of whom 60 were normal controls and 80 "suspect brain tumor patients". The author finds that these tests of olfactory function exceed former tests "in both accuracy and reliability", for they depend on the injection of "known volumes of odor"

into the nostrils. With one test the threshold level of odor perception and odor recognition is determined as the "minimum identifiable odor" (M. I. O.) measured in cubic centimeters of the odorous substance injected; with the second test the duration of olfactory fatigue is measured by repeated injections of the M. I. O. In the 60 normal persons on whom these tests were made the values for M. I. O. and olfactory fatigue showed wider variations than indicated by Elsberg's results; but it

was demonstrated that the majority of these individuals possessed "roughly similar" degrees of olfactory acuity when gross pathological conditions of the nasal passages are excluded. The clinical value of these tests in neurology, the author finds, is limited to the early detection of interference with the function of the olfactory nerves and bulbs. An increase in the M. I. O. values may show pressure by tumors, such as olfactory groove meningiomas, sphenoid ridge meningiomas and "other neoplasms in the subfrontal region", on the olfactory nerves and bulbs before complete anosmia results, so that complete removal

of the tumor may be possible "before it has attained large proportions". Raising of the M. I. O. values in cases of pituitary tumor indicates that the tumor has spread beyond the sella turcica and presses upon the "extracerebral olfactory pathways". The author has not found these tests of value for the localization of intracerebral growths. In 11 cases of proved frontal lobe tumors, only 4 were correctly localized by the tests which showed prolongation of olfactory

fatigue without change in the M. I. O., on the side of the tumor. This suggests that olfactory fatigue is "central rather than peripheral in origin". For proper application of these tests "sustained co-operation" on the part of the patient is necessary, which might still further limit their use in some cases.

COMMENT

All tests leading to refinement and accuracy are welcomed by neurologists. The actual existence of the sense of smell can

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not be proven as we are dependent on the statement of the patient to determine whether a defect in olfactory appreciation exists (smell being purely subjective). As in the study of visual fields we are dependent on the absolute cooperation of an intelligent patient. In selected cases the Elsberg method should be used. Obviously, it is not necessary to resort to such refinements on every patient admitted to a neurologic service. In the average case, it is important to determine whether the sense of smell exists or is absent. For such a purpose the simple inhalation of volatile substances is perfectly satisfactory.

H.R.M.

Genoscopolamine in Parkinsonism

J. H. SCHARF and S. T. MANORY (*Journal of Nervous and Mental Disease*, 89:682, May, 1939) report the use of genoscopolamine in 22 patients with Parkinsonism of long standing; each of these patients had been under treatment with hyoscine hydrobromide (scopolamine) or atropine sulfate or stramonium; the change to genoscopolamine was made gradually in each case and under careful supervision. Genoscopolamine was found to be an effective substitute for scopolamine, atropine and stramonium in the treatment of Parkinsonism; used with small doses of atropine, it was especially effective. Because of its low toxicity it can be given in larger doses than the other drugs employed in Parkinsonism without causing any symptoms such as are observed with these other drugs—flushing of the face, dizziness, dryness of nose and throat, tachycardia, etc. It relieves many of the distressing symptoms of the disease, especially rigidity, tremor, muscular weakness, salivation and oculogyric crises. Several patients have been taking genoscopolamine for about a year and “choose to continue taking it.”

COMMENT

An enthusiastic acceptance often attends the use of a new product in the treatment of a chronic disease. Similar reviews of approbation attended the early introduction of hyoscine hydrobromide, stramonium and atropine sulfate. We feel that the number of cases reported is far too small to justify a statement indicating a definite superiority of genoscopolamine in the treatment of this unfortunate condition.

H.R.M.

The Use of Fluids and Lumbar Puncture in the Treatment of Delirium Tremens

J. M. THOMAS, E. V. SEMRAD and R. S. SCHWAB (*Annals of Internal Medicine*, 12:2006, June 1939) report a study of 40 cases of delirium tremens at the Boston Psychopathic Hospital. All of these patients had a history of excessive drinking for several years, increasing in amount shortly before the onset of delirium. At the time of admission they showed confusion, disorientation, visual and sometimes auditory hallucinations. Patients suspected of having intracranial conditions that are known to increase the cerebrospinal fluid pressure were excluded from this group of cases studied. Alternate cases of the group were given an oral dose of paraldehyde to induce sleep, and a lumbar puncture was done with withdrawal of 10 to 40 c.c. cerebrospinal fluid. Dextrose (100 c.c. of a 50 per cent. solution) was then given intravenously. When the patient awakened he was given one ounce of magnesium sulphate by mouth; then a high caloric diet rich in vitamin B; fluids up to 1000 c.c. in the first twenty-four hours, then as desired. The other patients did not have a lumbar puncture done and were not restricted in the use of fluids. “On the contrary,” 1500 to 2000 c.c. of a 5 per cent. dextrose solution in normal saline was given by hypodermoclysis soon after admission to the hospital. Later they were given the high caloric diet rich in vitamin B and urged to drink large quantities of milk, fruit juices and water—in some instances as much as 2000 to 3000 c.c. in twenty-four hours. Paraldehyde was given by mouth as necessary to control excitement and restlessness. All patients recovered from their delirium in one to three days, but those who had not been restricted in fluids and had not had a lumbar puncture showed less tremor and fewer signs of exhaustion after the acute symptoms had subsided than those who had had lumbar puncture and restriction of fluids. All of these patients had a high caloric diet rich in vitamin B and all had rest and sleep, which the authors regard as most important factors in their recovery. In 12 cases in which

"reliable" cerebrospinal fluid pressure readings were obtained there was no rise in pressure. The authors, therefore, conclude that in delirium tremens without intracranial complications, lumbar puncture is not of special value in treatment, and restriction of fluids is not indicated; a larger fluid intake prevents dehydration and appears to aid in relieving the general intoxication.

COMMENT

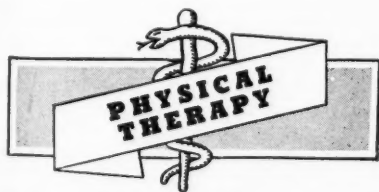
With the above observations we are in absolute accord. Unless one suspects a serious intracranial involvement we see no purpose or value in subjecting a patient, frequently critically ill, to the additional physical strain incident to performing a lumbar puncture. The administration of nicotinic acid, in adequate dosage, provides a therapeutic lift not obtained by the use of vitamin B alone. In the neuritic cases the use of a liver fraction provides a beneficial factor which accelerates the healing of an apparently refractory disorder. We endorse particularly high caloric feedings.

H.R.M.

Serologic Reactions in Schizophrenia

W. L. SHARP (*Archives of Neurology and Psychiatry*, 41:1229, June 1939) re-

ports that in 1932 and 1933, examination of the spinal fluid was made on all new patients admitted to the Central State Hospital of Indiana. The examination included Ross and Pandey tests, cell counts, colloidal gold test, and the Wassermann, Kahn and Kline tests. In 1932, 28, or 22.3 per cent. of the 125 patients admitted had typical dementia precox; 9, or 32 per cent. of them, showed one or more positive serological reactions. In 1933, 32 of the patients had dementia precox and 10 or 28.5 per cent. showed one or more positive serological reactions. Of the 19 patients in the 1932 group who showed a normal cerebrospinal fluid 6 have been discharged as improved or recovered; in the 1933 group, 22 showed a normal cerebrospinal fluid, and of these, 8 have been discharged as recovered or improved. In a follow-up study of the 19 patients who showed positive serological reactions it was found that none has been discharged from institutional care; in all, the mental status has remained stationary or deteriorated. The author interprets these findings to indicate that schizophrenic patients with serologic changes have a poor prognosis; any explanation is "purely speculative."



Dosage and Method of Roentgen Therapy for Inflammatory Conditions

A. U. DESJARDINS (*Radiology*, 32:699, June 1939) notes that in the use of the roentgen rays for treatment of inflammatory conditions, "the concept of maximum, tolerance or tumor doses" must be abandoned. In the treatment of inflammatory conditions, maximum doses are not required and may be dangerous. For acute inflammations, especially those due to staphylococci, a single small dose (10 to 50 per cent. of the erythema

dose) is usually sufficient; if necessary a second dose may be given to complete the effect. The field of irradiation should not be restricted too closely to "the visible limits of the inflamed area"; this is especially important when the inflammation is caused by virulent organisms such as streptococci or *B. welchii*; it is essential to have the rays act on the leukocytes of the blood circulating through and around the inflamed area. For instance, at the Mayo Clinic, if a patch of erysipelas involves the cheek, the entire side of the head and neck is included in the area treated. For inflammatory lesions, rays generated at low or moderate voltage—from 100 to 150 kv.—give better results than higher voltages—over 200 kv. A 4 to 6 mm. aluminum filter, or copper of equivalent value, is employed. In chronic inflammatory conditions larger doses are em-

ployed than in acute conditions, but not over 80 per cent. of the erythema dose; such doses must be repeated at intervals. The interval between treatments is governed by the dosage used; if two-thirds or three-fourths of an erythema dose is used, the interval should be two to four weeks, according to the author's experience. The number of treatments must be determined in each case. It has been found that chronic inflammatory conditions due to tuberculous infection improve more slowly and require longer treatment than non-tuberculous infections. Treatment must not be discontinued too soon in any case; when lesions and symptoms have disappeared or ceased to be active, one or two more treatments should be given.

COMMENT

This paper seems to be an important contribution to the revived attention that is being given to roentgen therapy in inflammatory conditions.

The reference to the effect of roentgenology in erysipelas seems to show that it has been a successful form of treatment at the Mayo Clinic. As the use of ultraviolet energy in erysipelas has proven to be far and beyond the most successful method, the inclusion of the effectiveness of roentgen therapy serves to complicate the picture when one attempts to explain the effectiveness of radiation in erysipelas infections. The exact way in which ultraviolet light works has not been found out as yet and, as the shorter wave lengths in the region of x-rays seem to be effective, it might possibly encourage the assumption held by some that there is no specificity in any wave length of light and that the end result in the applications varies with the amount of energy transferred from the source to the patient, coupled with the factors of time and intensity.

N.E.T.

The "Aeratone" Therapeutic Bath

W. OLIVER (*British Journal of Physiological Medicine*, 2:159, June, 1939) describes a new form of bath used for therapeutic purposes and known as the "Aeratone" bath, which was developed during his research work in the field of hydraulics at the University of Edinburgh. The therapeutic uses of the bath have since been developed in the medical department of the University. The bath consists of an outer water-tight cylinder

open at the top, and an inner concentric open-ended cylinder, which forms the "treatment" chamber. This treatment chamber has a perforated floor plate and a perforated adjustable stool on which the patient sits. The bath is made of welded and polished stainless steel. The air compressor is controlled from "a control desk" and there are no electrical connections near the bath. The bath is simple to operate. The bath is filled with water at the desired temperature so that the water in the treatment chamber is about six inches below the top. The patient is then placed in the treatment chamber and seated on the stool so that his shoulders are level with the top; this brings the water to about four inches from the top. An air valve is gradually opened so that air enters the annular space between the treatment chamber and the outer bath vessel; this reduces the density of the water in this space so that it pours over the top of the treatment chamber as a cascade. The central air valve is then opened below the perforated plate of the treatment chamber, introducing air bubbles which "form an ascending stream struggling vigorously upwards against the retarding downward flow of water" from the annular space. The bubbles continuously strike and rebound from the patient's skin, thus applying a "vibrating hydraulic massage" to all parts of the patient's body. The muscles of the patient's body are in "a state of gentle vibration while the blood circulation is stimulated to a high degree." Underwater movements can be carried out easily in the bath, if desired. The bath lasts from fifteen to twenty-five minutes; at the end of that period, there is no redness of the skin, but the patient feels an "internal glow" and feels "stimulated and energized." This bath has been found of value in the treatment of rheumatic conditions of all types, in which it has been used chiefly. Some physicians report its favorable action in cases of high blood pressure, and note its stimulating action on the kidneys as shown by increased diuresis and relief of edema.

COMMENT

The Aeratone Therapeutic Bath seems to be an adaptation of the bubble bath that was commercially produced for the profes-

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sion by Sandor many years ago in Dresden. The Sandor Foam Bath probably is better known but the same apparatus produced bubbles without foam and the effects were analogous to those described by the writer of this paper.

From the description in this resume it would seem that the Sandor Bubble Bath is easier to apply and less expensive to purchase.

N.E.T.

Short Wave and Ultra Short Wave Diathermy

H. BRUGSCH and J. H. PRATT (*American Journal of Medical Sciences*, 197:653, May 1939) report the use of short wave and ultra short wave therapy in more than 600 cases of various types at the Boston Dispensary. The wave lengths of the high frequency currents used in short wave therapy vary from 3 to 30 meters; wave lengths of 10 meters or less being designated as "ultra short wave." The glass shoe electrodes designed by Schliephake have been found most satisfactory in the authors' experience; an air gap is left between the electrodes and the skin, and the danger of burning is thus lessened. While no evidence was found that any particular wave length is optimum for the treatment of any particular condition, it was found that low wave lengths gave best results where "no strong heat effect" is desired. Where it was important to induce a high degree of heat, the 15 meter wave gave better results. If a definite heat effect was desired, the duration of the treatment was usually twenty minutes, but for the initial treatment usually only ten minutes; if only a mild hyperemia was indicated, treatment was given for only five to ten minutes. As a rule one treatment a day was given, but in some severe inflammatory lesions, two treatments a day were sometimes given. The best results in the cases treated were obtained in acute subcutaneous infections (furuncles, carbuncles, abscesses) and acute arthritis, especially gonorrheal arthritis. In 51 cases of furunculosis, 4 patients abandoned treatment before healing was complete; in the other cases, there was rapid improvement and healing; of 11 cases of carbuncle, 9 healed without surgical intervention. In 7 cases of gonor-

rheal arthritis, all showed rapid improvement, and 4 were practically cured; all but 3 of 14 cases of acute arthritis of other types also showed marked improvement with relief of pain and swelling. Acute and chronic bursitis "were often favorably influenced." About half the cases of rheumatoid arthritis and of exacerbation of chronic sinusitis obtained symptomatic relief. No favorable effect was observed in cases of lung abscess or bronchiectasis. The authors conclude that "short wave therapy is safe and easy of application, and of definite, although limited, therapeutic value."

COMMENT

Electrotherapists who have been using short wave diathermy for some time have dropped the classification of this current which was originally applied because there was thought to be a difference in effect of wave lengths of ten meters or less, i.e., ultra short waves. Experience has shown no specific action can be attributed to any wave length. The main advantage of low wave lengths is the fact that more space and more efficient distribution of energy can be obtained.

It is probably proper in discussing this abstract to call attention to the fact that wave length has nothing to do with these treatments. The heat generated by dielectric loss in the non-conductor placed between the two condenser plates is the effect of this extremely high frequency current creating and collapsing electrical fields.

This form of treatment is still diathermy but the use of the very high frequencies makes it applicable without putting the electrodes on the skin, thus making it a very convenient but also a more slipshod procedure.

There is one short wave diathermy apparatus on the market which can be used both with contact and non-contact electrodes. The essential difference between conventional and short wave diathermy is merely a matter of frequency which permits a variation in application.

N.E.T.

Clinical Evaluation of a New Ultraviolet Lamp

F. M. THURMON and L. KORETSKY (*Medical Record*, 149:381, June 7, 1939) report clinical trials of a new mercury ultraviolet lamp, which is designed especially for the emission of

light of short wave lengths (2537 Å° to 2000 Å°); the window is thin, absorbing very little of the shorter rays; the lamp develops little heat and thus can be used in close proximity to the skin. The ultraviolet rays from this lamp, because of their shorter wave length, are more bactericidal than erythema producing. The window of this lamp is of small diameter (2¾ inches), and thus has been employed only in the treatment of patients who showed single or a few small lesions. In all cases "contact or near contact application" was used; the time of exposure varied from five to eight minutes; the interval between treatments was three to seven days. Of the various skin diseases treated with this lamp, the best results were obtained in impetigo; the most resistant case of impetigo required only five treatments; in the average case the lesions cleared up completely with three treatments. Cases of epidermophytosis showed marked improvement after a few treatments, but later tended to recur; in some cases lesions that had not improved under other methods of treatment were improved by the new lamp. Most cases of psoriasis were not definitely benefited, but one case of psoriasis of the knee showed marked improvement. One case of indolent ulcer healed after three treatments given in one week. In 2 cases of neurodermati-

tis, improvement was obtained and itching much relieved. Only 2 patients noted a sensation of burning at the area of contact with the lamp; objectively the erythema was only slight. The authors conclude that with this lamp there is "a wide margin of safety with regard to burn"; and that it is of definite value in superficial bacterial infections. It is small and portable and can be used in the patient's home. With the new lamp a longer exposure time is required than with the standard ultraviolet lamp, and as the treatment aperture is of small diameter, the total treatment time required is too long for clinic practice. It is also impossible to give general exposures with the new lamp. The chief value of the new lamp is in the treatment of superficial skin lesions "caused by the ordinary pus-producing organisms."

COMMENT

The lamp described in this article was commented upon in this department in the March, 1939 issue of Medical Times.

It is true that it has "a wide margin of safety with regard to burning" but it is so inefficient in the amount of energy produced according to the time of dosage recommended that it can not be considered an important improvement in the field of ultraviolet therapy.

N.E.T.



INDUSTRIAL MEDICINE AND SOCIAL HYGIENE

The Confidential Death Certificate

PAUL PARROT (*Canadian Public Health Journal*, 30:335, July 1939) reports an investigation of 4396 death certificates in the Province of Quebec, Canada, with a view to ascertaining the correctness of the statements as to cause

of death and the advantages of a confidential death certificate. The death certificates investigated came from several cities, including Montreal, and from rural districts. All these certificates were returned by private physicians; 504 physicians were interviewed. In 1324 instances, or 22.2 per cent., the statement in regard to the cause of death was found to be "incomplete", "incorrect" or "untrue"; and in 1163 of these cases, or 19.5 per cent., the cause of death was "intentionally" incomplete, incorrect or untrue. The certificates classified as incorrect were those in which the cause of death was so stated as to give the impression that another condition, also stated on the certificate, was the real cause of death;

there were 418 such certificates. The certificates classed as untrue were those in which a cause of death other than the real cause was given; there were 423 such cases. These two groups represent the cases in which the physician had "a definite desire to conceal the cause of death." In 273 certificates a communicable disease was concealed as the cause of death; this was tuberculosis in 99 (or 36.3 per cent.) and syphilis in 78 (or 28.6 per cent.); in 201 cases, cancer as the cause of death was concealed. These findings indicate that deaths from communicable diseases or cancer may frequently be missed in vital statistics "with the present procedure of certification." In interviewing physicians in regard to these 841 intentionally inaccurate certifications, the reason most frequently given for concealment of the true cause of death (in 622 instances) was that "the certificates are seen by too many persons"; in 103 cases the real cause of death was concealed at the request of relatives. Nearly 93 per cent. of the physicians practicing in the Province of Quebec have urged that the death certificate be made confidential; a trial of the confidential certificate is now being made in four counties in the Province.

COMMENT

Vital statisticians and biometrically minded public health workers, as well as interested laymen, have generally long suspected that the information appearing on death certificates, as regards the cause of death, was not always correct.

In Rhode Island, for the past three years, the Division of Vital Statistics, co-operating with the state district health officers, has made an effort to determine the actual cause of death on a certificate, whenever it was known or suspected that the deceased might have died from a cause other than that stated by the certifying physician or medical examiner. Substantially, the results yielded under this policy have been the same as those uncovered by Parrot. In view of the fact that accurate mortality statistics are so basically and essentially important in the determination of vital trends, it is obvious that departments of health and statistical bureaus, as well as life insurance companies, should be interested in effecting a correction of this evident major deficiency. Some two years ago, Halbert L. Dunn, of the U. S. Bureau of the Census, pointed out this fact in the course of a private conference with the writer.

It would be highly desirable if a general movement were to be started to improve our present methods of death certification.

M.L.G.

The Role of Food Handlers in the Transmission of Amebiasis

J. J. SAPERO and C. M. JOHNSON (*American Journal of Tropical Medicine*, 19:255, May 1939) note that investigation of the Chicago epidemic of amebic dysentery in 1933 showed that food handlers were of little importance in the spread of that epidemic. As previously "a role of considerable importance" had been assigned to food handlers in the spread of amebiasis, the authors carried out a special investigation among various groups in the personnel of the United States Navy stationed at Panama. In all, 14 groups comprising 919 persons were included in the study. In some of the groups, the men were exposed to infection in eating places ashore where the food handlers are natives and the "carrier rate" of amebiasis is high; in these eating places, the hygienic conditions were "of the most primitive type." But in these groups the incidence of amebic infection was not increased. In other groups men were exposed to infection in mess units aboard ship on the submarines and smaller vessels, where, though general hygienic conditions are good, there is considerable restriction in the sanitary conveniences for washing, and conditions would be favorable for transmission of amebic infection by food handlers. Yet in the groups served by food handlers infected with *E. histolytica*, the percentage of amebic infection was no higher than that in the group not served by infected food handlers, and in both groups the incidence of infection was within the range which a control study has shown may be ascribed to infections acquired prior to naval service. The failure of transmission of the infection by food handlers in these studies indicates that dissemination of amebic infection by this method "cannot be of common occurrence." It cannot, therefore, be justifiably claimed that widespread reforms "directed against food handlers" are necessary in the United States in the control of amebiasis. "The appearance of high community in-

dices, or cases of amebic dysentery, should cause a search for obvious sanitary defects before suspecting food handlers."

COMMENT

The findings of the authors of the incidence of amebic infection among several groups to whom food was served by known amebiasis carriers, and under different sanitary conditions, are of significant epidemiological interest.

*Their views in questioning the present wide-spread reforms directed against food handlers discovered to carry the *Endamoeba histolytica* are probably correct. In the development of an outbreak of amebic infection, in addition to the existence of carriers, two major factors, which should be considered, are the dose of the parasite ingested either with food or drink, and the lowered resistance of the gastro-intestinal tract to its invasiveness. This is probably favored by the presence of other organisms, notably *B. coli*, in overwhelming amounts, and by the existence of other circumstances such as prevailing weather conditions.*

Similar control investigations would, in all probability, confirm the results of the authors.

M.L.G.

Incidence of Pulmonary and Extrapulmonary Tuberculosis in Anthracite Coal Miners

A. C. COHEN (*Archives of Internal Medicine*, 63:1117, June 1939) reports that a recent survey of autopsy findings in anthracite coal miners and male non-miners at various institutions in Luzerne County, Pennsylvania, shows the high incidence of pulmonary tuberculosis among the miners. In 541 cases in miners, pulmonary tuberculosis was the principal cause of death in 21.3 per cent.; in 730 cases in males of the same age group who were not miners, pulmonary tuberculosis was the cause of death in only 8.9 per cent. In complete postmortem examinations of 50 patients with miners' anthrasilicosis associated with pulmonary tuberculosis and 80 cases of pulmonary tuberculosis in adult male non-miners without anthrasilicosis, it was found that the incidence of intestinal and laryngeal tuberculosis was definitely less in miners than in non-miners. In miners with advanced anthrasilicosis the tuberculous lesions were of the fibrotic type, and the incidence of intestinal

tuberculosis was low in this group (4 per cent.); in the cases with less advanced anthrasilicosis acute caseous tuberculous lesions were more frequently found in the lungs and the incidence of intestinal tuberculosis was much higher, approaching that found in non-miners with pulmonary tuberculosis. In the majority of cases with intestinal tuberculosis associated with anthrasilicosis there were few, if any, symptoms of gastro-intestinal involvement. These findings indicate that the anthrasilicosis of anthracite coal miners favors the development of pulmonary tuberculosis, but that in the presence of anthrasilicosis, pulmonary tuberculosis tends to run a chronic course with extensive fibrosis, and this appears to prevent the spread of tuberculous infection to other parts of the body.

COMMENT

The observation of the author, that the incidence of intestinal and laryngeal tuberculosis is definitely less in miners with anthrasilicosis as compared with non-miners, is of considerable interest.

The evident characteristic fibrotic type of pulmonary tuberculosis in miners with advanced anthrasilicosis and the low comparative incidence of intestinal tuberculosis in these cases may possibly be explained on the basis of the development of tissue hypersensitiveness and increased resistance on the part of extrapulmonary structures to the invasion of tubercle bacilli in the presence of the anthrasilicotic condition. This is in addition to the author's view, that the presence of anthrasilicosis favors the chronicity of pulmonary tuberculosis (also favors the development of the infection), which impedes the spread of tuberculous infection to other organs.

M.L.G.

Occupational Melanosis from Pitch

H. B. FOERSTER and L. SCHWARTZ (*Archives of Dermatology*, 39:955, June 1939) report investigations in four industrial plants among workers who handle pitch and coal tar; more than 500 men were examined and more than half of these had melanosis or premelanotic dermatitis; many workers also showed other cutaneous lesions such as pitch comedos, keratosis, folliculitis and furunculosis. These workers, if employed out of doors, were found to be especially

sensitive to sunburn; in one plant men working out of doors were so highly "photosensitive" that they could not be employed during the day time, but worked satisfactorily on the night shift. Histological examination of biopsy specimens from pigmented areas in the skin in some of these cases indicated that the discoloration due to pitch was a true melanosis; the melanin deposits were found chiefly in the corium. The authors' previous studies have led to the conclusion that pitch dermatitis and melanosis are "true reactions of photosensitization", resulting from the action of a specific photosensitizer in pitch. The authors are of the opinion that the prevention of pitch dermatitis and melanosis depends chiefly upon "effective sanitary engineering" in the plant and provision for and enforcement of thorough personal hygiene of the workers (daily showers and change of clothes). Among outdoor workers the incidence may be reduced by similar measures, and where exposure cannot be avoided, by night operations, rotation of work and proper selection of workers. The use of protective creams and lotions containing "blockers of light" is also helpful; the authors have found preparations of resorcinol and quinine satisfactory.

COMMENT

The work of these investigators has shed considerable light on the subject of melanotic or premelanotic dermatological affections which for years have been known to occur among workers handling pitch and coal tar.

The relationship of these affections to sarcomata should be borne in mind.

Further research into the histology of these types of dermatitis would reveal interesting cellular changes having a possible relationship to malignant neoplasms.

The advice offered by the authors as regards protection of the workers is of definite value.

M.L.G.

Contact Investigation of Syphilis in an Urban Community

T. B. TURNER, A. GELPERIN and J. R. ENRIGHT (*American Journal of Public Health*, 29:768, July 1939) report a study of the contacts of 247 patients with primary and secondary syphilis admitted to the Syphilis Clinic of Johns Hopkins Hospital, Sept. 1, 1936 to June

30, 1938. For this group, 322 contacts were named and 237 were found on investigation to have syphilis; in 74 of these contacts the syphilis was in the primary or secondary stage, which gives a ratio of 30 infectious contact cases to each 100 original cases. In addition 40 other contacts were found to have syphilis without manifest lesions; thus the contact investigation brought 114 previously unknown cases of syphilis under medical care, "approximately two-thirds of which were potentially infectious." In a previous study of the contacts of 87 patients with latent syphilis, 83 contacts were named by 60 of these patients; of the contacts, 46 were examined, and 3 cases of syphilis in an infectious stage and 11 cases of latent syphilis were discovered; 13 contacts were known to have syphilis, and 19 were found not to have syphilis. Most of the patients in both these groups came from the Eastern Health District of the City of Baltimore; from 1932 to 1937 there was little or no change in the number of new cases of syphilis in this district; during the past two years, through these contact investigations at least 77 persons in this district who were potential sources of infection have been brought under treatment and rendered non-infectious fairly promptly. Some new cases of the disease were probably prevented in this way.

COMMENT

This report indicates the distinct benefit that may be derived from a policy of contact investigations of cases of syphilis. This aspect of syphilis control activity is of comparatively recent development, particularly since communities have turned away from regarding syphilis as a moral issue and come to look at the problem in its proper light as a communicable infection.

It is the writer's belief that the greatest hope in the ultimate successful reduction of the incidence of syphilis to a minimum lies in this type of investigation of cases in the primary and secondary stages of the disease.

In order to accomplish this objective it is quite important that health departments cooperate more closely with the clinic personnel (physicians, nurses and social workers), as well as receive better support by the medical profession at large, in a real and determined effort to uncover contacts of known primary and secondary cases.

M.L.G.



The Treatment of Glaucoma With Splenic Extract

E. A. MILLER (*American Journal of Ophthalmology*, 22:536, May 1939) reports the treatment of 22 cases of glaucoma with injections of splenic extract. This treatment is used on the theory that primary glaucoma is an angioneurotic edema of the eye, and that splenic extract has been found to relieve the symptoms of angioneurotic edema, eczema and other allergic conditions. The splenic extract employed is "thoroughly deproteinized." The dosage used at each injection is 20 c.c., given intramuscularly—10 c.c. in each upper arm, as it has been found that injection of the entire dose in one arm may cause an edema. Injections are usually given every forty-eight hours, but at more frequent intervals if symptoms recur sooner; in some cases injections must be given every twelve hours. As soon as the symptoms are entirely relieved, treatments are continued but the time between treatments is progressively increased, as this prevents recurrences. During treatment no alcohol or alcohol-containing medicines are allowed, as alcohol neutralizes the therapeutic effect of the splenic extract. In the 22 cases treated, operation for relief of intra-ocular tension was done in 3 cases; 2 of these patients gave up the treatment, although marked reduction in tension had been obtained, and went to other ophthalmologists who performed iridectomies. In the third case an iridectomy was done because the increased tension recurred as soon as the treatment with splenic extract was discontinued. Four of the patients had cataract with secondary glaucoma; the intra-ocular tension was promptly reduced by treatment with the extract, and the cataract operation was thereby facilitated. Some patients showed slight reactions—faintness, verti-

go, etc.—to the injections. In the author's cases no intensification of eye symptoms occurred after injections, although such "Jarisch-Herxheimer-like reactions" to splenic extract injections have been reported in asthma, angioneurotic edema, urticaria and eczema in a small percentage of cases; if such a reaction occurred in glaucoma, it would be an indication for immediate operation.

COMMENT

There is no distinction made in the original article between acute and simple glaucoma. The details of the cases reported are too brief and general to allow the reader to evaluate the treatment.

R.I.L.

Treatment of Severe Corneal Ulcer with Sulfanilamide

J. H. BAILEY and E. SASKIN (*Archives of Ophthalmology*, 22:89, July 1939) report the treatment of 9 cases of severe corneal ulcer with sulfanilamide given by mouth. In such severe infections, the usual dosage of the drug calculated for a patient 70 kg. in weight was 1 gm. sulfanilamide every four hours for the first twenty-four hours, 5 gm. in six equal doses on the second and third days, 4 gm. the fourth day and the rest of the week 3 gm. daily. If necessary the drug may be continued for more than a week in decreasing dosage. With this dosage the patients in this series showed some "side effects" of the drug, but they were not such as to "interfere appreciably" with continuing the treatment. In all these cases, there was rapid subjective improvement; the lesions healed less rapidly, but final visual acuity was good in each case. The author notes especially that "long before the ulcers were healed", the patients were relieved of pain, even though the ulcers were in a florid state, ocular pain and headache were entirely relieved, and patients were able to sleep. The progress of healing of the ulcers was more satisfactory than with the usual methods of treatment.

COMMENT

We expect this drug will be of service to the ophthalmologist but the diagnosis of the cases treated must be exact and the type

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of case described in detail or there will be little benefit derived from the reports.

R.I.L.

Treatment of Diseases of the Eye with Grenz Rays

R. L. PFEIFFER (*Archives of Ophthalmology*, 21:976, June 1939) reports the use of the grenz rays, which are absorbed in the superficial tissues, in the treatment of 302 cases of surface lesions of the eyeball, cornea, bulbar conjunctiva, episclera and sclera. The best results were obtained in ulcers and infiltrates of the cornea; 32 cases of various types of corneal ulcer were treated; there was stimulation of healing in practically all catarrhal and small marginal ulcers in one to four days. In severe ulcers, protective dressings were also used and the healing of these ulcers must be partially credited to this measure; 4 severe nonspecific corneal ulcers resistant to other forms of treatment were healed by the grenz rays. Good results were also obtained in cases of episcleritis and scleritis; of 60 patients with episcleritis, 48, or 80 per cent, responded satisfactorily; 4 cases of scleritis treated all showed definite response. Cases of non-ulcerative keratitis of various types were not uniformly benefited; in punctate and vascularized keratitis relief from discomfort and pain was often obtained without definite healing. The usual practice in the grenz ray treatment of these conditions was to give 452 r. with 0.024 mm. aluminum, half value layer, twice a week until five treatments had been given. The most outstanding effect of the rays was the analgesia obtained; as previously noted, in cases where no definite healing of the lesion resulted, relief from pain was obtained and was "gratifying to the patient." No serious untoward effects were noted in any case; "the range of safety" of the grenz rays "is great", the author notes. He is convinced that "grenz rays are as efficacious in the treatment of superficial lesions of the eye as any other form of radiant energy and that they lack the disadvantages."

COMMENT

It is impossible to evaluate these results because the diagnosis of the various types of lesions treated is too general.

Vernal catarrh is one of the stubborn ailments receiving this treatment and we look forward to reports of the results obtained.
R.I.L.

Therapeutic Experiments in Cases of Retinitis Pigmentosa

I. BIRO, of the University of Budapest (*British Journal of Ophthalmology*, 23:332, May 1939) reports the treatment of 25 patients with retinitis pigmentosa at the University Eye Clinic, in 1932 to 1938. Five of the male patients were given injections of testiculin (testicular extract), 3 of the women patients were given injections of glandobulin (follicular hormone), one patient (a woman) was given liver extract (exhepar) by injection; amyl nitrite inhalations were given to 13 patients (7 males and 6 females); liver extract injections and amyl nitrite inhalations were combined in 5 cases (in men). In the 5 cases treated with testiculin, one patient showed no improvement; this patient was deaf and dumb and suffered from adiposogenital dystrophy. In 2 cases there was no change in the visual acuity but the visual field widened considerably; in the other 2 cases, both the visual acuity and the visual field increased and adaptation improved. In these cases there was some definite evidence of hypogonadism as an indication for hormone therapy. Of the 3 women treated with folliculin, only one showed definite improvement in visual acuity and a "much widened" visual field. The other 2 patients who failed to improve had other congenital defects and were the offspring of blood relations. In the one woman treated with injections of liver extract, the visual field was increased to normal although visual acuity did not change, and a ring scotoma disappeared. Of the 13 patients treated with amyl nitrite, 5 showed improvement in both visual acuity and visual field, 8 no improvement. In 5 cases in which amyl nitrite was combined with liver extract injections, there were 2 that showed improvement in both visual acuity and visual field; 3 showed no definite improvement. In reviewing the family history of these patients, it was found that retinitis pigmentosa is of a milder type

and more easily influenced by treatment if inherited as a dominant than if inherited as a recessive factor. None of the hormones or drugs used in treatment in these cases can be regarded as specific therapy for retinitis pigmentosa; they act by either increasing the blood supply of the retina or increasing its oxidation and metabolic processes.

COMMENT

The tissue changes already well on the way when this condition is first discovered (about ten years of age) would seem to deny any hope of recovery. The most that can be expected is a delay in a process that is as inexorable as death.

R.I.L.

Radium in the Treatment of Chalazion

G. DVORAK-THEOBALD and C. J. WHITE (*American Journal of Ophthalmology*, 22:750, July 1939) report the use of radium in the treatment of that type of chalazion that is composed of "firm granulation tissue in a thick boggy lid." In this type of chalazion "even careful surgery" may not remove all the granulations, while the cystic type of chalazion is usually amenable to surgical curetting. The authors have treated 28 cases of this type of chalazion with radium. In carrying out this treatment, the chalazion was "well isolated" and lead screens placed around it. A 10 mg. plaque of radium filtered by one-tenth millimeter aluminum was applied for eighteen minutes; treatments were given twice a week for two weeks (four treatments in all). Of the 28 patients treated, 2 had only two treatments; 23 showed marked improvement after the third treatment; 3 did not obtain a satisfactory result, and in these 3 cases preliminary curetting had not been done prior to the radium treatment. With the radium dosage used and proper screens and filters, there is no danger of damage to

the lens and globe. The only reaction that may occur is a temporary conjunctivitis.

COMMENT

The average chalazion is a harmless mass that is removed for no other reason than its unsightliness. Doctors hesitate to operate upon them often because the game seems hardly worth the candle. This treatment seems even more troublesome than opening and scraping out the sac.

R.I.L.

Vitamin C and the Aging Eye

S. M. BOUTON, JR. (*Archives of Internal Medicine*, 63:930, May 1939) reports a study of vitamin C in the blood and urine in 12 patients showing changes in the eye indicative of senescence. It was found that there was definite evidence of vitamin C deficiency in these cases as compared with normal standards. Administration of ascorbic acid by mouth "in adequate doses" improved the vision as shown by ophthalmoscopic and reading tests and the patients' subjective symptoms, unless the crystalline lens was primarily involved. Although in cataract the lens shows a definitely subnormal ascorbic acid content, the oral administration of ascorbic acid, "even in excessive amounts", has no effect when cataractous changes have set in. Combining other vitamins with vitamin C may be effective when ascorbic acid alone ceases to be of benefit.

COMMENT

There are a goodly number of patients coming to oculists with the very earliest signs of cataract but with excellent vision. It would seem not only possible but probable that some of these could be favorably influenced by treatment directed primarily at improving the nourishment of the transparent tissues of the eye. We are not able yet to say which of these conditions has been influenced by treatment and which was benign, and therefore statistics cannot well be offered.

R.I.L.



MEDICAL BOOK NEWS

• All books for review and communications concerning *Book News* should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, N. Y.

Edited by Alfred E. Shipley, M.D., Dr. P.H.

A Bacteriological Bibliography

THE ANAEROBIC BACTERIA AND THEIR ACTIVITIES IN NATURE AND DISEASE. A Subject Bibliography in two volumes. By Elizabeth McCoy and L. S. McClung. Volume one—Chronological Author Index. Volume two—Subject Index. Berkeley, University of California Press, [c. 1939]. 4to. Cloth, \$10.00.

The anaerobic bacteria occupy a very important place in the group of pathogenic bacteria, hence familiarity with the literature dealing with this widespread group of organisms is essential to the bacteriologist, student of public health, and surgeon. The success of the enormous canning industry is dependent to a large degree upon the efficiency of adequate methods of sterilization, with particular emphasis being placed on the anaerobic bacteria. Knowledge of the habits and physiology of the anaerobes is also essential in the dairy industry and sewage disposal plants, to mention only two more.

The authors of this excellent bibliography have had considerable experience with this group of bacteria. The enormous literature dealing with anaerobic bacteria is set forth in such a manner that it is available easily and completely through a good part of 1938. These two volumes should be excellent additions to the libraries of those who have any interest in bacteria.

MORRIS L. RAKIETEN.

Esthetic Surgery

PLASTIC SURGERY. By Arthur J. Barsky, M.D., D.D.S. Philadelphia, W. B. Saunders Company, [c. 1938]. 355 pages, illustrated. 8vo. Cloth, \$5.75.

Dr. Barsky's book is a resume of a large portion of the available literature pertaining to Plastic Surgery. It presents the usual shortcoming characteristic of all summaries of material relative to a specific problem. Dr. Barsky does crowd a large number of references in a few pages, but in so doing, he puts not the original authors thoughts on paper but his conception of what the original author is striving to convey. This in turn is interpreted in the light of the reader's knowledge, and frequently the "second hand" interpretation is not what the original author had in mind. As a result, one is led to believe that Plastic



Classical Quotations

● The true and lawful goal of the sciences is none other than this: that human life be endowed with new discoveries and powers.

Francis Bacon.

Novum Organum.

Surgery is a relatively well defined specialty with comparatively dogmatic rules and procedures governing it.

The reviewer is of the opinion that several methods should be given for every procedure, because it is a well known fact that an operation of a certain type may be followed with numerous successes by one man, while the same procedure is an absolute failure in a second man's hands. The surgeon should be presented with the available

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material, and allowed to choose a method that is compatible with his individual training. There is no more of a "short cut" to Plastic Surgery than there is to any of the rest of the surgical specialties.

Numerous examples could be pointed out to emphasize the above mentioned factors. The vast field of fractures of the facial bones is covered in some 17 pages. This includes fractures of the mandible, maxilla and nasal bones plus methods of treatment and diet. This very important field of Plastic Surgery is dismissed with inadequate treatment.

In Dr. Barsky's description of "wiring" of jaws by the eyelet method, he quotes Ivy, but if one were to follow the method illustrated, much difficulty would be encountered in getting satisfactory fixation as the eyelets are graphically represented as containing 3 and 4 twists whereas Ivy's modification of the Oliver technic requires $1\frac{1}{2}$ twists, so that the eyelet will fit into the interproximal space and allow the wires to be drawn up tightly and when the intermaxillary wires are applied, there will be true fixation. Also the author describes the "Baker Anchorage", which is in reality the Lingual Bar originally described by Winter and made by Baker. The author goes to great length to apply traction to a posteriorly displaced maxilla, whereas the simpler methods of realigning this type of fracture are ignored.

The treatment of burns is covered in four pages. This is obviously a very inadequate discussion of an extremely important problem.

This book illustrates the fact that

there is a distinct need for a "System of Plastic Surgery", a series of books discussing anatomy, physiology, pathology and surgery relative to this field. A book such as Dr. Barsky's leaves the average surgeon with a false sense of security—the field of Plastic Surgery can not be covered in one small volume.

WALTER A. COAKLEY.

Obstetrical Abnormalities

THE ABNORMAL IN OBSTETRICS. By Sir Comyns Berkeley, M.D., Victor Bonney, M.D. and Douglas MacLeod, M.B. Baltimore, William Wood & Company, [c. 1938]. 525 pages. 8vo. Cloth, \$6.00.

This book, written for obstetricians, ranges far and wide though all too quickly in spots over the field of abnormal obstetrics. In addition diseases of the skin, eye, ear, nose and throat, blood, lungs, liver, gastrointestinal tract, arteries, veins, etc. which have been reported as associated with or complicating pregnancy are briefly discussed. The introduction is brilliant and original, based on the hypothesis that pregnancy is a state induced by a neoplasm. There has been no other book quite like it.

CHARLES A. GORDON.

More Socialized Medicine

MEDICINE AT THE CROSSROADS. By Bertram M. Bernheim, M.D. New York, William Morrow & Company, [c. 1939]. 256 pages. 8vo. Cloth, \$2.50.

This is a most provocative book and deserves to be read by all members of the medical profession. It may be considered informative, but it is largely libelous.

Doctors are divided into five groups. (1) Researchers and teachers of the scientific branches; (2) governmental doctors of the army, navy, and public health services; (3) the group of older men who have reached the top with professional and financial security; (4) rank and file practitioners; (5) the most interesting group, consisting of those who criticize everything in existence and make a living out of pain and misery without much regard for methods used.

Much is said in this book about hospitals and their mercenary ways. Much that is melodramatic is made out of the difficulty of getting patients into hospitals. The doctors in many hospitals are small, narrow-minded, cloistered, un-

thinking, uninterested, inarticulate beings suffering from ignorance. This is the author's view of many of the members of our profession.

Private practice comes in for a thorough smearing. Somehow the author thinks doctors created the poverty that affects the masses. He apparently has never looked into the money controlling mechanism and the relationship of the Federal Reserve System to the production and maintenance of poverty.

The author says that to socialize medicine "It will cost plenty of money, but that is not our affair. That is the public's; and if the public wishes to have it, the public will pay for it." This sentence on page 99 seems to offset the idea that socialized medicine is being introduced because the present cost of medical care is too great.

On page 83 the following astounding statement appears, "It would be funny, if it were not so tragic, to think of patients being handled by the hundreds and thousands day in and day out by doctors of their own choosing who are immoral and dishonest in their dealings with them." *Immoral* and *dishonest* are strong terms when used in this wholesale fashion. If there are large numbers of immoral and dishonest doctors in our midst the cause of this demands an immediate investigation.

All these abuses are to be changed by group practice and socialized medicine. The author seems to think that dishonest people will become honest if they form groups, and that all government employees are also honest.

It seems to the reviewer that the author should be brought before his County Medical Society and forced to prove his statements. If he has not the data with which to prove the statements he should be expelled beyond the folds of organized medicine, and removed from his teaching position; for as a teacher he has helped to produce the state he says exists.

J. ARTHUR BUCHANAN.

Another Medical Novel

DOCTOR ADDAMS. By Irving Fineman. New York, Random House, [c. 1939]. 454 pages. 8vo. Cloth, \$2.50.

This is a long and heavy novel about

"the Great Doctor Addams," a famous biophysicist, associated with one of the outstanding medical centers and seemingly specializing in the manifestations of procreation. The author, to those who are not familiar with his previous novels, is not a physician. He was trained in engineering schools and later won a position on the faculty of literature in a Vermont college. He is said to have devoted four years in the preparation of the present novel.

The characters of the story are, of course, the various professors and clinicians connected with the center, and we soon have the opportunity of learning how large or small they shape up as doctors and as mere men. Doctor Addams has married into the Board of Trustees, but the marriage is physiologically a failure. When his wife leaves on an indefinite European trip, Doctor Addams meets up with the outstanding female of the story, a brilliant laboratory technician and a most receptive woman. In the course of the novel, we find weighty discussions of medical ethics and practice, and equally heavy expressions of political, social and racial opinions. Throughout, however, there is a broad current of sex life and sex consciousness, eddying, of course, around the attractive technician. It is probably true that the purely technical and scientific atmosphere of the medical center would have only an academic interest to a reading public outside the medical profession. But romance and human interest are here, too, unfortunately the going is never easy for the doctor, the layman or both.

JOSEPH RAPHAEL.

Writings of the Father of Medicine

THE GENUINE WORKS OF HIPPOCRATES. Translated from the Greek by Francis Adams, LL.D. Baltimore, The Williams & Wilkins Company, [c. 1939]. 384 pages. 4to. Cloth, \$3.00.

The present volume is a reprint of the translation of Francis Adams, first published in 1849. Until the appearance of the Loeb Hippocrates it was the only translation available to English readers. It is a scholarly piece of work, and was originally published with copious notes. Instead of being brought up to date, they were unfortunately deleted from the present edition. It is likewise unfortunate

nate that Adams' title has been retained without any qualification or explanation in the introductory note. Adams translated only those works which he considered genuine, omitting large and certainly not unimportant parts of the *Corpus Hippocraticum*. Opinion on this matter has changed since 1849, and it may be said at present that we do not know which parts of the *Corpus*, or if any, were written by Hippocrates. While Dr. Kelly indicates this view he concludes his introduction with an excerpt from Adams' conclusions, leaving the prospective reader unaware of what has been done in this field during the past fifty years, and probably under the impression that he is reading the work of Hippocrates.

The volume is handsomely bound and printed, and certainly should be added to the library of every physician.

GEORGE ROSEN.



Evaluation of Traumatic Injuries

STANDARD BODYPARTS ADJUSTMENT GUIDE. Traumatic Injuries, Medical Fees, Evaluations. Chicago Insurance Statistical Service of North America, [c. 1939]. Illustrated. 4to. Fabrikoid, \$8.00.

This volume is valuable as a statistical reference guide in the evaluation and determination of injuries, such as would be involved in insurance work, workmen's compensation practice, and industrial management. It is useful to laymen, lawyers, and physicians from such a standpoint. However, it should not be considered as a text on scientific medicine or surgery, because it is not sufficiently comprehensive or detailed for such a purpose.

An excellent feature is a condensed compilation of the workmen's compensation laws of various states, together with pertinent data. This guide is assembled on the principle of the looseleaf book which permits additions. It is conveniently indexed, and contains a number of diagrams illustrative of the material.

JOSEPH A. MANZELLA.

Pharmacological Experiments

FUNDAMENTALS OF EXPERIMENTAL PHARMACOLOGY. By Torald H. Sollmann, M.D. and Paul J. Hanzlik, M.D. Second edition. San Francisco, J. W. Stacey, Inc., [c. 1939]. 307 pages, illustrated. 8vo. Cloth, \$4.25.

This second edition, like the first, is divided into two main parts: chemical pharmacology and experimental pharmacodynamics. Although various obsolete sections have been deleted and considerable new material added, the general organization and context is the same. Certain new structural formulas and chemical tests have been included, and new drugs and dosages have found practical application in appropriate experiments. Pertinent material from the new *United States Pharmacopeia* and the *National Formulary* has been included.

The volume includes a large number and wide variety of experiments which show evidence of a careful selection on the basis of their importance in the understanding of fundamental principles and in applying these principles to the problems of medical practice. The work is well organized and the material clearly outlined.

The section on dosages in the appendix is a valuable and convenient reference in outlining any course or exercise in experimental pharmacology. Doses are given on a basis of animal species, route of administration and the effect desired.

J. RAYMOND JOHNSON.

Fishberg's Fourth Edition

HYPERTENSION AND NEPHRITIS. By Arthur M. Fishberg, M.D. Fourth edition. Philadelphia, Lea & Febiger, [c. 1939]. 779 pages, illustrated. 8vo. Cloth, \$7.50.

The new edition of this outstanding work maintains fully the high reputation which it has attained in its field. So much is new in the study of these diseases that the author has rewritten many chapters, added others, and brought the whole subject fully up to date. All recent pertinent contributions are reviewed and critically evaluated. The clinical viewpoint has been kept uppermost, and experimental work assessed, as far as possible, with regard to its value in clinical medicine. The book should be invaluable to practitioners and students, and should form a part of every medical library.

J. HAMILTON CRAWFORD.

A Pioneer in Child Hygiene

FIGHTING FOR LIFE. By S. Josephine Baker, M.D. New York, The Macmillan Company, [c. 1939]. 264 pages, illustrated. 8vo. Cloth, \$2.75.

Here is a book written by one of the pioneers in the field of Child Hygiene. The medical profession applauds a good piece of original scientific research; very few physicians appreciate the ability, energy, determination and resourcefulness required to organize and administer a community health movement such as Doctor Baker demonstrated in developing the Bureau of Child Hygiene in the New York City Department of Health.

The obstacles, social, political, and otherwise, with which Doctor Baker grappled are described by her in autobiographical style. The procedures resulting in reduced infant mortality, pre-school preventive measures, school medical examinations, and the like, which were instituted by Doctor Baker have been followed by communities all over the United States.

The general practitioner, as well as the pediatrician, will enjoy this book which is very readable.

ALFRED E. SHIPLEY.

Trauma and New Growths

RELATION OF TRAUMA TO NEW GROWTHS. Medico-Legal Aspects. By R. J. Behan, M.D. Baltimore, The Williams & Wilkins Company, [c. 1939]. 425 pages. 8vo. Cloth, \$5.00.

This book contains a vast amount of material, and represents the final summation of a prolonged study of books, articles and legal opinions and decisions concerning trauma and cancer. It has 425 pages of small type, and contains numerous medical and legal case reports in still finer type.

In many instances widely divergent beliefs are expressed by numerous individuals, and quotations show all points of view. Certain general facts in regard to the causes of cancer and what part trauma may play are discussed. Tumors of various tissues and organs of the body are considered separately in special chapters.

This is not light nor easy reading, but it contains a wealth of information for the student and conscientious medico-legal expert. At times one feels lost in the fog that has always surrounded this debatable subject.

HENRY F. GRAHAM.

Biochemical Methods

MEDIZINISCHE CHEMIE FÜR DEN KLINISCHEN UND THEORETISCHEN GEBRAUCH. By Dr. K. Hinsberg and Dr. K. Lang. Wien, Urban & Schwarzenberg, [c. 1938]. 458 pages, illustrated. 4to. Paper, RM. 18.

The purpose of this work is to give a survey of biochemical methods published during the past seven or eight years. Special attention has been paid to the recently widely developed micro-methods with a strict limitation to technique only. The writers have especially studied the newer improvement of older methods. The literature is thoroughly covered, and tables, formulas, and reproductions of special equipment presented. The review is complete as to the literature, but the descriptions are too concise for practical application. Therefore, the reader needs to consult the original papers in order to be able to reproduce the tests. On the other hand, the writers did their best to be as critical as possible as to the value of the various methods on which they report, and point to certain difficulties and origins of shortcomings. The chapters on vitamins and hormones are rather short. As an aid to quick orientation the book is valuable to chemists and physicians who are familiar with modern biochemical methods.

MAX G. BERLINER.

Cohn's Original Essay on Bacteria

BACTERIA: The Smallest of Living Organisms. By Dr. Ferdinand Cohn. Translated by Charles S. Dolley. Baltimore, The Johns Hopkins Press, [c. 1939]. 44 pages. 4to. Paper, \$1.00.

This brochure contains a translation from the German of Prof. Ferdinand Cohn's original essay on the classification and description of the bacteria (1872) by Charles S. Dolley, student of medicine in the University of Pennsylvania (1881). Portraits of Cohn and Dolley, a plate from the *Microscopical Journal*, made from original drawings of Dr. Cohn and a comprehensive bibliography of Cohn's many published articles enhance the value of the work. The translator reveals the fact that Dr. Cohn really antedates Pasteur and Koch in blazing the trail for the science of bacteriology. This fascinating book is a valuable historic contribution. For Americans, the work is important, as it is one of the earliest to be translated by an American on the subject of bacteriology.

JOSHUA M. VAN COTT.

Cardiac Pain

ANGINA PECTORIS. Nerve Pathways. Physiology, Symptomatology, and Treatment. By Heyman R. Miller, M.D. Baltimore, The Williams & Wilkins Company, [c. 1939]. 275 pages, illustrated. 8vo. Cloth, \$3.25.

This book is built around the presentation of some excellent drawings illustrating the nerve supply of the heart. The plates are so arranged that they form a progressive series from the simpler to the more complex, each in turn adding an important portion of the cardiac innervation. The text accompanying the drawings is clear, and gives a good understanding of this difficult and important subject. The theory behind different methods of surgical treatment of anginal pain is more easily understood.

The rest of the book is a discussion of the treatment of angina pectoris, both medical and surgical, and the physiology of heart pain. It is unfortunate that the author chose the title *Angina Pectoris* for his work, because modern knowledge tells us that this is not a disease entity but only a symptom caused by several different diseases affecting the coronary arteries. This emphasis on the symptom results in confusion in the book itself, leaving the reader uncertain at times whether the author is describing the treatment of the anginal syndrome or of coronary thrombosis. The impression is gained that the author believes that in a paroxysm of angina pectoris the pain is always fraught with the gravest danger, and that it is common for patients to die of the paroxysm alone. The use of the term angina pectoris as a clinical entity will tend to perpetuate the confusion that existed ten years ago, but which is fast being dispelled. The anatomical drawings of cardiac innervation are a contribution to our knowledge of the nerve supply of the heart. The general discussion of "angina pectoris" does not add to the clarity of our understanding.

EDWIN P. MAYNARD, JR.

A New Biochemical Manual

BIOCHEMISTRY FOR MEDICAL, DENTAL AND COLLEGE STUDENTS. By Benjamin Harrow, Ph.D. Philadelphia, W. B. Saunders Company, [c. 1938]. 353 pages, illustrated. 8vo. Cloth, \$3.75.

According to the preface, this book is mainly intended to cover the require-

ments of courses in Biochemistry given to medical, dental, agricultural and college students. However, in reviewing it, we find that the subject is covered in such an interesting manner, and in such clear and simple style, that we have no hesitation in recommending it to another great class of students. We refer to that great group of practicing physicians who have retained their love for the romance of medicine, and who have enough scientific curiosity to snatch a few moments to read things not immediately related to their daily work.

The arrangement of the book follows the orthodox order. Chemistry of the foods is taken up first. This is followed by the chemistry of the various steps involved in the digestion and utilization of the foods. There are a few chapters that stand out most prominently—Chapter 9 on "Synthesis in the Plant Kingdom," chapter 14 on "Chemistry of Respiration," chapter 18 on "Biological Oxidations." The practicing physician will find these well worth studying. The chapters on Vitamins and Hormones are most interesting and up to date.

One of the finest features of this book is the list of references at the end of each chapter. Not only is a reference mentioned, but the author is careful to point out just what particular point of interest it may have for the student. Most of these are in English, which is a relief for many of us.

Altogether, it is a book well worth having in one's library.

BENJAMIN DAVIDSON.

Fundamentals in Gastroenterology

GASTROINTESTINAL DYSFUNCTION. By Barton A. Rhinehart, A.B. Little Rock, Arkansas, Central Printing Company, [c. 1939]. 311 pages, illustrated. 8vo. Cloth, \$6.00.

The author of this short treatise on gastrointestinal disorders spends fully two-thirds of his book on important fundamental principles, selecting his references, from the most part, with judicious care. Physiology, anatomy, vitamins, minerals are stressed particularly. Treatment is covered briefly with stress again on basic principles. There are interesting case reports and x-rays at the back of the book.

ANDREW M. BABEY.

A New Edition of Wechsler's Neurology

A TEXTBOOK OF CLINICAL NEUROLOGY WITH AN INTRODUCTION TO THE HISTORY OF NEUROLOGY. By Israel S. Wechsler, M.D. Fourth edition. Philadelphia. W. B. Saunders Company, [c. 1939]. 844 pages, illustrated. 8vo. Cloth, \$7.00.

This is the fourth edition of a work that has reached a position of prominence and envy amongst medical textbooks. It is written in a facile style by an eminent clinician who has had a rich clinical and pedagogic experience.

The new edition records the number of advances in neurology, and keeps the textbook abreast of the times. Thus, it discusses the newer aspects of neuritis and neuropathy, the olfactory test of Elsberg, the carotid sinus syndrome, petrositis, electro-encephalography and many other facts and procedures of importance in neurology.

The book is truly an important work, indispensable to neurologists and to students, and is an illuminating reference text for all progressive physicians. It is highly recommended.

IRVING J. SANDS.

Diagnosing Swellings

THE CLINICAL DIAGNOSIS OF SWELLINGS. By C. E. Corrigan, M.D. Baltimore, The Williams & Wilkins Company, [c. 1939]. 313 pages, illustrated. 8vo. Cloth, \$4.00.

The author states in his preface that he aims at a simple practical method of investigating swellings. He then seems to mount a hobby horse, stating that clinical methods alone, as opposed to laboratory aids, will provide the evidence for diagnosis, allocating precedence of physical signs over history and symptomatology. "One sign is worth ten symptoms."

As the book unfolds this horse proves to be more difficult to ride than the author seems to have foreseen. Throughout the section on tumors he saves himself from several falls by dismounting to tell us that the diagnosis of the type must await the microscopic examination.

The reviewer thinks it is not altogether wise to so overemphasize physical signs as to disparage the other important parts of a thorough and complete examination, i.e. the history and various laboratory tests. It is certainly good training to carefully observe every possible physical sign and, after a careful equally skillful history, to write a provisional opinion as to diagnosis. But it is surely not wise in serious instances to consider this as a working diagnosis until after all possible laboratory data have been collected and interpreted. Just as much skill is required in this interpretation as the author claims for that of the physical signs.

Aside from this philosophy the book is worth studying for the many aids it gives in sharpening the physician's technique in the physical examination of swellings. The simple line drawings are clear and illustrate the text excellently.

WILLIAM H. FIELD.

Manual of Legal Medicine and Poisons

MEDICAL JURISPRUDENCE AND TOXICOLOGY. By William D. McNally, M.D. Philadelphia, W. B. Saunders Company, [c. 1939]. 386 pages, illustrated. 8vo. Cloth, \$3.75.

This abbreviated edition of a concise textbook of medical jurisprudence and toxicology, represents an adequate survey heretofore not covered by others. The method followed by the author is to give mainly to physicians and medical students necessary information as a basis for orientation on the witness stand in both civil and criminal testimony.

Among new material may be mentioned his condensed table of schematic outline on autopsy and toxicologic examination.

It is an excellent book and presents in an easily readable form all practical aspects of the subject.

S. INGRAM HYRKIN.



You may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the MEDICAL TIMES, 95 Nassau Street, New York, N. Y.

BOOKS RECEIVED *for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.*

- A TEXTBOOK OF GENERAL BACTERIOLOGY.** By Edwin O. Jordan, Ph.D. Revised by William Borrows, Ph.D. Twelfth edition. Philadelphia, W. B. Saunders Company, [c. 1938]. 808 pages, illustrated. 8vo. Cloth, \$6.00.
- THE ORGANISM. A Holistic Approach to Biology** Derived from Pathological Data in Man. By Kurt Goldstein, M.D. New York, American Book Company, [c. 1939]. 533 pages. 8vo. Cloth, \$4.00.
- TUMBLING IN THE HAY.** A novel by Oliver St. John Gogarty. New York, Reynal & Hitchcock, [c. 1939]. 329 pages. 8vo. Cloth, \$2.50.
- POPULATION, RACE AND EUGENICS.** By Morris Siegel, M.D. Hamilton, Ontario, Canada, 546 Barton St. East, The Author, [c. 1939]. 206 pages. 8vo. Cloth, \$3.00.
- THE CLINICAL AND EXPERIMENTAL USE OF SULFANILAMIDE, SULFAPYRIDINE AND ALLIED COMPOUNDS.** By Perrin H. Long, M.D. and Eleanor A. Bliss, Sc.D. New York, The Macmillan Company, [c. 1939]. 319 pages. 8vo. Cloth, \$3.50.
- THE SOCIAL FUNCTION OF SCIENCE.** By J. D. Bernal, F.R.S. New York, The Macmillan Company, [c. 1939]. 482 pages. 8vo. Cloth, \$3.50.
- DISEASES OF THE MOUTH AND THEIR TREATMENT.** A Text-book for Practitioners and Students of Medicine and Dentistry. By Hermann Prinz, M.D. and Sigmund S. Greenbaum, M.D. Second edition. Philadelphia, Lea and Febiger, [c. 1939]. 670 pages, illustrated. 8vo. Cloth, \$9.00.
- THE MASSACHUSETTS GENERAL HOSPITAL. Its Development, 1900-1935.** By Frederic A. Washburn, M.D. Boston, Houghton Mifflin Company, [c. 1939]. 643 pages, illustrated. 8vo. Cloth, \$4.00.
- MASTERING YOUR NERVES.** By Peter Fletcher. New York, E. P. Dutton & Co., [c. 1939]. 241 pages. 12mo. Cloth, \$1.50.
- MANUAL OF THE DISEASES OF THE EYE FOR STUDENTS AND GENERAL PRACTITIONERS.** By Charles H. May, M.D. Sixteenth edition. Baltimore, William Wood and Company, [c. 1939]. 515 pages, illustrated. 12mo. Cloth, \$4.00.
- OTOLARYNGOLOGY IN GENERAL PRACTICE.** By Lyman G. Richards, M.D. New York, The Macmillan Company, [c. 1939]. 352 pages, illustrated. 8vo. Cloth, \$6.00.
- PRIESTS OF LUCINA. The Story of Obstetrics.** By Palmer Findley, M.D. Boston, Little, Brown and Company, [c. 1939]. 421 pages, illustrated. 8vo. Cloth, \$5.00.
- DIAGNOSIS AND MANAGEMENT OF DISEASES OF THE BILIARY TRACT.** By R. Franklin Carter, M.D., Carl H. Greene, M.D. and John R. Twiss, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 432 pages, illustrated. 8vo. Cloth, \$6.50.



ASSOCIATED PHYSICIANS

—Concluded from page 412

hand. St. Catherine's Hospital loaned an intern and an old ambulance. The first call for a horse to draw it drew response from a neighbor, but the horse was blind. An exchange was made for a sound horse from the Sisters in Amityville and it was stabled in a neighboring doctor's barn. The following year the institution moved into a larger building on Ray Street accommodating 20 patients. In 1904 a \$75,000 brick structure was erected which served Jamaica until

the advent of the present building.

Mary Immaculate is a general hospital of 319 beds. It is approved by the A. M. A. and the American College of Surgeons. A nursing school has been maintained since 1908.

The scientific program will be presented by staff members as follows:

1. Importance of Early Surgical Diagnosis—Dr. Frank Dealy. Discussion—Dr. Thomas Brennan.
2. Coronary Artery Disease—Dr. Godwin Distler. Discussion—Dr. Edwin P. Maynard.
3. Toxemia of Late Pregnancy—Dr. James McManus. Discussion—Dr. Charles Loughran.
4. Spina Bifida—Dr. Ben Shapiro. Discussion—Dr. Thurman B. Givan.
5. Dentistry in a General Hospital—Dr. Joseph Stahl. Discussion—Dr. Paul Eschweiler.



The Place of Bodington in the Therapy of Tuberculosis

IN the course of the recent trial of Brunson vs. Fishbein, mention was made of Bodington as a pioneer in the field of rest therapy in tuberculosis, preceding Brehmer and Dettweiler. But both Bodington and Brehmer stressed exercise. It was Dettweiler who made rest the basic element of treatment. These men were all creators and advocates of the sanatorium.

Bodington, however, was the first physician to drag the tuberculous sick out of stuffy and warm rooms, sealed effectually against the entrance of fresh air. That was the prevailing manner of treating such cases and Bodington took them right out into the open, thereby bringing upon himself the hearty vituperations of the entire British medical profession.

Said Bodington, in his classic essay, published in 1840: "To live in and breathe freely the open air, without being deterred by the wind or weather, is one important and essential remedy in arresting its progress—one about which there appears to have generally prevailed a groundless alarm lest the consumptive patient should take cold. Thus one of the essential measures necessary for the cure of this fatal disease is neglected, from the fear of suffering or incurring another disease of trifling import."

But the patient was to walk several hours daily, or better, to rise at five or six o'clock and ride horseback. Bodington was no pioneer in the field of rest therapy.

It was also stated in the course of the Brunson vs. Fishbein trial that the sever-

ity of the assaults upon Dr. Bodington by the British profession compelled him to convert his little sanatorium into an insane asylum. As a matter of fact, he had purchased it in 1836, when it was known as the Driffold House Asylum, Sutton Coldfield, and continued to conduct it as such. His tuberculosis work had started when he was a general practitioner in Erdington. During this period, judging from the dates of the cases reported in the famous essay and from the description of their care, patients were treated in their homes. Then we find him treating a young lady on November 14, 1836, "under my roof." He had intended, upon acquiring the asylum, to confine his work to mental cases, but the tuberculosis problem evidently continued to fascinate him. Why should it not have fascinated him, when he found himself curing many patients afflicted by a supposedly "fatal" disease?

Bodington published his classic essay in the form of a small book (Longmans). Probably the medical journals of the day were unavailable to him, to judge from the severity of their reviews. It is to be borne in mind that he was regarded in some quarters as insane. But the awakening came in 1857, before his retirement, signalized by the recognition of the value of his work on the part of the *Journal of Public Health*.

Bodington led in the advocacy of fresh air, scientific nutritional care, and direct supervision in the sanatorium—and that is glory enough. He missed the importance of rest—unless one accepts his free use of opium as conducing to that most basic of considerations by slowing respiration, allaying cough, and promoting sleep.

Support of a Failing Circulation

ORNSTEIN, Licht and Herman [Quart. Bull. Sea View Hosp. 4:333 (April) 1939] have devised a practical means of raising venous pressure in the presence of shock. It consists in the application of wide toweling electrodes soaked in physiologic saline solution to the legs and lower part of the body, with block tin over the toweling. By this means a gentle faradic current effects a definite increase of venous pressure.

In discussing failure of the circulation in such circumstances the J.A.M.A. [113:503-504 (Aug. 5) 1939], following Porter and Henderson, notes the inadequacy of the old explanation (Crile) which invoked the vasomotor nervous system and finds a progressively diminishing venous return to be the underlying cause. This stagnation of blood in the body tissues leads to failure of both heart action and arterial pressure. "The heart can pump into the arterial system only what it receives from the venous system; no degree of vasomotor activity can maintain arterial pressure if the output of the heart falls too low."

Porter and Henderson, it appears, think that the phenomena of shock may be due to the failure of the tonus of the musculature of the body, both skeletal and visceral, which normally maintains a gentle pressure whereby the blood is sent from the tissue capillaries into the veins and on back to the heart. In shock, this tonic intratissue pressure, they suggest, is also depressed and with it the venous return.

These investigators and the J.A.M.A. writer seem to be blissfully oblivious to the part played by vascular peristalsis in these phenomena; and yet they skirt the topic most dangerously in their curiously evasive gyrations.

Probably Ornstein, Licht and Herman have unwittingly given us a demonstration of how to restore vascular peristalsis in states of shock, thereby moving the blood all along the line, in both arterioles and veins—for even the veins seem to be muscularly equipped to partic-

ipate in such peristalsis. The work of Ornstein, Licht and Herman seems to be a great milestone in physiology.

At any rate, we are glad to see that the question of what, under normal conditions, really gets the blood out of the vast capillary sponge and through the 100,000 miles of vascular channels that must be traversed, cannot much longer be dodged.

Drafts and Colds

The experimental work of Arthur Locke [J. Im. munol. 36:159 (Feb.) 1939] on nonspecific factors in resistance seems to throw considerable light on the mechanism of drafts in causing colds, although that specific problem did not enter into the inquiry.

Locke found that in rabbits the reduction of three degrees of body temperature following chilling enabled him to determine fitness in terms of warming time. Physical fitness means ability to sustain circulation. Where this capacity to sustain circulation is measurably reduced, ability to survive intravenous injection with small numbers of virulent type I pneumococci is correspondingly reduced.

In normal animals there is a measurable ability to recover within a reasonable time from the circulatory effect of chilling, with consequent maintenance of a reasonable degree of resistance to infection.

A possible inference from these observations would seem to be that prolonged surface chilling in conjunction with fatigue, nutritional deficiencies, etc., tends to create a hazardous lowering in such circumstances of the capacity to maintain normal circulation, and hence an increased susceptibility to respiratory infections at least.

At any rate, it is gratifying to see what has thus far been a matter of vague words, like "resistance", reduced by science to a matter of measurement. Now when we talk about drafts no one can accuse us of old wives' patter. The man who has always taken drafts into account is now revealed as one close to scientific truth.



ESTABLISHED
IN 1872

Prolonged Bed Rest

FOR CERTAIN AGED PATIENTS

MALFORD W. THEWLIS, M.D.

Wakefield, R. I.

IN 1919, I included in my book *Geriatrics* a chapter entitled "Keep Senile Cases Out of Bed", the gist of which was that the majority of old patients must be kept out of bed as much as possible.

But there is a type of aged patient who must remain in bed, sometimes for a year or two, in order to rest worn out organs which have reached the limit of their capacity. For them physiologic rest is indicated.

A WOMAN aged 74 had asthma and arterial hypertension for years. She was active and had exceeded her functional capacity in work. Finally, she showed evidence of renal failure. The urinary output was reduced to six or seven ounces daily and showed a low specific gravity, albuminuria, and casts. She was told that her only hope was prolonged physiologic rest for several months and that she would probably be so benefited by it that she would be able to get around again. She remained in bed a year. After six months, the urinary output suddenly increased to about 28 ounces daily and has continued at about this amount ever since with good concentration and the disappearance of albuminuria and casts. The systolic and diastolic blood pressure has dropped 20 mm.

I SAW another patient aged 80 who had a similar kidney condition, besides many other symptoms. After she had rested three months in bed, her kidneys resumed normal function and she lived a year in comparative comfort.

A physician aged 76 had peripheral vascular disease and was threatened with gangrene in one leg, which he was ad-

vised to have amputated at the knee. He never spared himself, had used plenty of alcohol and tobacco, and always exceeded his capacity for exercise. Several months before, he had had an attack of coronary thrombosis. He was hospitalized. The pain in the leg was so intense that he asked that every sharp instrument be removed from his room so that he could not commit suicide. For months he remained on his back, discouraged, suffering, and hoping that the end would soon come. After a year's rest in bed, he began to improve and is now able to walk about. In fact, he remained on his feet for twelve hours at the World's Fair recently, celebrating his fifty-third wedding anniversary. Evidently prolonged physiologic rest to every organ in his body gave him a new lease on life.

MANY aged persons have arterial hypertension and subclinical edema, and are overweight. Bed rest is the best method at our disposal to cure obesity because it corrects fluid retention. With less fluid in the tissues, the heart and blood vessels have less work to do, and in time these organs improve in vascular tone, provided the diet is adequate in vitamins, especially B₁. A rounded diet does not require any additional vitamins, but I am using vitamin B₁ a great deal in treating the aged, since the diet is often inadequate.

The treatment for a failing heart is bed rest. As Davis pointed out, exercise cannot improve the condition when heart failure is caused by hypertension or

valvular heart disease. He gave the requirements for bed rest in relation to duration of cardiac failure as follows:

might conclude that the physiologic end is approaching—the natural termination of life. I know of no other way of

<i>Duration of Cardiac Failure</i>	<i>Therapeutic Bed Rest</i>		<i>Prophylactic Bed Rest with Bathroom and Table Privileges</i>
	<i>Minimal Weeks</i>	<i>Desirable Weeks</i>	<i>Weeks</i>
Weeks 2 or less	12	16	1 out of 8
4	16	24	1 out of 6
8	32	48	1 out of 4
12	48	72	1 out of 3

He reminded us that when older patients are allowed out of bed after weeks of confinement, they may show signs of circulatory insufficiency, dyspnea on slight exertion, slight pitting edema of the legs, and rarely râles at the bases of the lungs which will disappear after a time with slowly increasing activity.

It is interesting how some of these aged persons readjust themselves to the horizontal postural position. It is even possible to perform surgical operations on some after prolonged bed rest. Many of these patients have bathroom privileges and are allowed out of bed for meals.

THE late Pope Pius evidently passed through months of bed rest after which he was active until his death. In 1936, he was critically ill for months; his physicians said at first that he could not live and that he would never be well again. According to press dispatches, he suffered from varicose veins and was not able to move his legs. During his prolonged bed rest, he lost weight and felt much better than before his illness. It is said that after his recovery, the Pontiff had changed in many ways and that he learned much from his illness. He recovered the use of his legs and at 81 had a stupendous energy, working fourteen to sixteen hours and seeing many persons every day. He was keenly interested in everything that was happening in the world. It is said that he was able to walk with ease and that the only noticeable indication of his illness was occasional dyspnea.

The type of patient who needs rest is the one who ceases to improve on ordinary treatment. When everything done for the patient seems of no avail, one

diagnosing this condition, beyond the failure of therapy. And when therapy fails, one is justified in boldly telling the patient that the only chance of recovery is through prolonged bed rest.

Since keeping senile patients out of bed is partly a psychologic procedure, it is necessary to give some justifying explanation to those who require prolonged bed rest. I have told many of them about the Pope's illness, explaining how this physiologic rest gives new life to tired out organs. These patients have taken courage and submitted to the procedure with a philosophy which is quite remarkable indeed.

FROM the point of view of preclinical medicine, certain lessons may be learned from the effect of prolonged physiologic rest. For example, frequent rest periods of five minutes each are perhaps one of the best methods for combating many diseases of old age. Many older persons with hypertensive hearts and other conditions would do well to remain in bed one day every week or ten days; others who are overweight, have increased blood pressure, and dyspnea, would do well to spend a week or two in bed every three to eight weeks. Patients threatened with coronary thrombosis might avoid an attack by remaining in bed for a week when they notice the first evidence of dyspnea associated with oppression in the chest. Concerning the prevention of coronary thrombosis, Hurxthal expressed his opinion as follows: "It is perfectly true that no matter what advice is given the attack may not be warded off. In fact, it is possible that whatever advice is given may actually predispose to the attack. Thus, complete

rest in bed might well promote further thrombus formation and over-activity might dislodge a small thrombus, causing it to settle in one of the finer branches without any profound change." Certainly, obese persons with subclinical edema, as

evidenced by serum albumin and globulin studies, would spare themselves much illness later if they would remain in bed for a couple of weeks. A lightened load, plus rest, will give relief to organs which have exceeded their functional capacity.

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Diethyl-Stilboestrol

● A SYNTHETIC OESTROGENIC COMPOUND: ITS ACTIVITY AND BIOLOGICAL EFFECTS IN HUMANS

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EARLY in 1933 Cook, Dodds and Hewitt showed that all of the known biological activities of oestrone could be reproduced by a synthetic substance of a simple constitution, namely, 1-keto-1:2:3:4-tetrahy-

drophenanthrene.¹ The activity of this synthetic oestrogenic compound was quantitatively many hundred thousand times less than that of the naturally-occurring hormone, oestrone. Later a whole series of synthetic substances were obtained which were found to possess oestrogenic activity.^{2,3}

By far the most potent substance arrived at was 4:4'-dihydroxy- α - β -diethylstilbene⁴ (diethyl-stilboestrol). Comparative tests show it to be between two and three times as potent as oestrone under similar conditions.⁵

No international standard exists for diethyl-stilboestrol and as this substance is of known constitution and definite chemical purity, there is no need for such a standard, since all doses can be referred directly to weight.

DODDS, Lawson and Noble⁶ in studying the biologic effects of this drug found it to have an action similar to oestrone on the uterus of ovaectomized rats, on the mating reaction, vagina, and uterus of immature rats, on the uterus of im-

Note:—Recently, according to *New and Non-official Remedies*, 1939, biochemists have prepared synthetically a number of estrogenic compounds which are said to be effective in replacement therapy. "Among these substances are diethylstilbesterol, triphenylethylene and ethinyl estradiol, which are stated to be more effective by mouth than estrone or estradiol. Adequate clinical reports on these preparations are not available at present" (p. 345).—EDITOR.

mature rabbits and on the feathers of capons. By vaginal smear assay on ovariectomized rats, the synthetic substance was approximately two and a half times as active as oestrone.

One of the earliest publications on the clinical tests of this drug was that by Guldberg which described the treatment by the injection of diethyl-stilboestrol, dissolved in oil, of severe climacteric disturbances in a woman following bilateral ovariectomy. The stilboestrol injections controlled the early symptoms, and the treatment was maintained by oral administration with complete success.⁷

Experiments carried out on the inhibition of implantation and the interruption of established pregnancy by the oral administration of diethyl-stilboestrol revealed that this substance will inhibit the effect of progesterone and prevent implantation of the blastocysts in rabbits. Small doses prevent implantation in rats. It is also highly effective in interrupting established pregnancy in rabbits.⁸



WINTERTON and McGregor⁹ in their clinical observations with diethyl-stilboestrol treated 51 patients, 45 of whom complained of symptoms referable to an endocrine disturbance, and 6 in whom it was desirable to inhibit lactation. The responses obtained were similar to those which would have been expected from treatment with a natural oestrogen. Oral administration of the drug was found to be as effective as intramuscular therapy. Six patients complained of slight nausea after taking the tablets by mouth and a few others admitted to this symptom on being questioned. The nausea varied in its time and onset, and usually passed off after a few days, although the treatment was continued.

One patient was actually sick after both tablets and injections while one postmenopausal patient was able to take as much as 21 mgm. of stilboestrol by mouth daily without experiencing any ill effects.

Stilboestrol given by mouth was shown to be capable of inhibiting lactation.

LOESER¹⁰ in a brief trial of diethyl-stilboestrol concluded that the drug produces such marked oestrogenic effects that it has a good substitution action in various forms of ovarian insufficiency.

Bishop, Boycott and Zuckerman¹¹ studying the oestrogenic properties of diethyl-stilboestrol clinically and experimentally conclude that this substance administered orally imitates the effects of the natural estrogens by:

1. Producing "oestrin withdrawal bleeding."
2. Producing an intermenstrual type of endometrium both in the human female and in the monkey.
3. Inducing growth of the hypoplastic uterus.
4. Relieving the symptoms of the menopausal syndrome.
5. Converting a "menopausal" into an "oestrous" type of vaginal smear.
6. Restoring the normal appearance of the vulva and vagina when they have become atrophic as the result of the oestrogen deficiency of the climacteric.
7. Inducing painful swelling of the breasts.
8. Causing proliferation and activation of the epithelium of the mammary glands.
9. Relieving the pain of dysmenorrhea.

Its oestrogenic activity when given by injection corresponds with that of oestrone. The oestrogenic properties of the synthetic hormone diethyl-stilboestrol appear to imitate the natural oestrogens faithfully and to be highly active when administered by mouth.

The majority of the clinical reports emphasize the non-toxic and harmless qualities of the substance. Some of the authors referred to nausea after the material had been given by mouth. With the exception of one case, this was not sufficient to interfere with the treatment and it eventually passed off. Since the nausea does not appear until some five hours after taking the material, it would appear reasonable to assume that it is not due to local action of the substance on the mucous membrane of the alimentary tract.¹²

With these results in view further studies of the drug were undertaken.

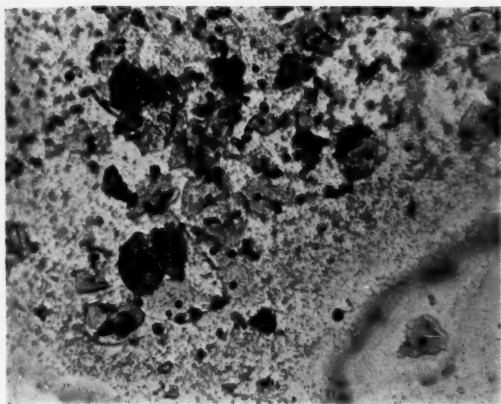


Fig. 1.

Case 1. H. F. Vaginal smear one week before treatment. Considerable aluminous debris, many leukocytes and older epithelium. (X 110)

Case Reports

Case 1. H. F., Married female, age 26, complained of complete absence of menstrual periods for 2 years associated with loss of libido, frequent and severe hot flushes, gain in weight and marked nervous instability.

These symptoms and complaints followed immediately after an x-ray abortion. Her menstrual history until then was normal. Large doses of various estrogenic hormones proved of little avail.

On May 15, 1939, she was started on 2 tablets of 1 mgm. each, of diethylstilboestrol, daily, by mouth. She complained of marked nausea and abdominal cramps. The dose was cut to 1 tablet daily which was well tolerated, nausea and abdominal cramps not appearing. In addition 1 ampoule of 1 mgm. of the diethylstilboestrol was injected intramuscularly twice weekly.

Her vasomotor symptoms were completely controlled with this therapy. On July 5, 1939, a menstrual period described by the patient as a normal one lasting 5 days occurred. Her general sense of well-being improved greatly.

A mouse assay for estrogenic hormone in the patient's urine was done 3 weeks before treatment was started. Three mouse units were found in 500 cc. of urine. Two weeks after treatment had been begun this assay was repeated and 250 units were found in 500 cc. of urine.

Vaginal smears taken weekly 4 weeks before and 4 weeks after treatment was instituted were read as 4+, 2+, 2+, 3+, and 3+, 3+, 3+, in that order. Figure 1 shows the vaginal smear one week before treatment and figure 2 the vaginal smear two weeks after treatment.

The clinical improvement in this case was dramatic. Unfortunately endometrial biopsies are absent.

Case 2. M. F., married female, age 30, complained of absence of menstrual periods for 2 years, sterility, lack of libido and a constantly tired feeling. Her periods began at 14 years of age, occurred every 4-5 weeks and lasted 1 day. These stopped two years ago. The patient stated she had never had a "real" period. She has been married for 13 years and has never been pregnant. During these thirteen years her weight increased from 100 lbs. to 180 lbs.

General physical examination revealed the following deviations from the normal: hirsutism of the upper lip and side beards; male distribution of hair on the abdomen and thighs; a hypoplastic cervix and uterus; and a cone-shaped vagina. The adnexa were not felt.

The blood pressure was 120 systolic over 70 diastolic. X-ray of the sella turcica revealed nothing abnormal. Routine blood count and urine examinations were negative. A basal metabolism determination revealed a minus 12. The Huhner test was normal and a lipidol examination of both tubes found them patent. Previous therapy consisted of a low caloric (1200), high protein diet. Thyroid tablets, 3 grains daily

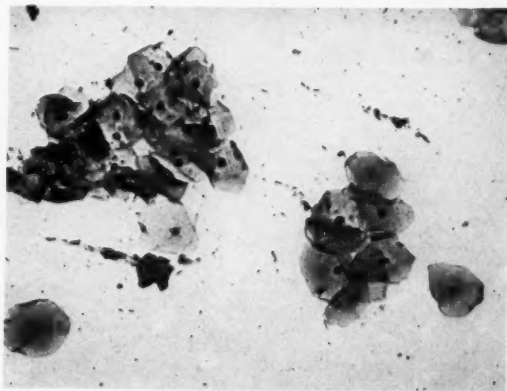
and increased to 5 grains. Two cubic centimeters of an anterior-pituitary-like substance (polysanin) and 1 cc. of whole pituitary gland were given intramuscularly every second day. This regimen was maintained for two weeks. During the next two weeks this regimen was continued but 25,000 international units of an oestrogenic substance (theelin) was also given, by injection, every second day.

For two months, this regimen was maintained. A loss of 37 lbs. occurred. There was no increase in libido, no change in the hirsutism and no menstrual epoch.

An endometrial biopsy was taken at this point which revealed the following: scattered, small, simple tubular, non-secretory glands in an acellular thin stroma. The diagnosis was atrophic endometrium (See figure 5).

Fig. 2.

Case 1. H. F. Vaginal smear two weeks after treatment. No leukocytes and no old epithelial cells. (X 110)



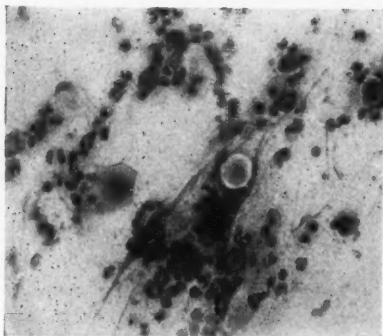


Fig. 3.

Mouse assay vaginal smear. Typical negative smear. Many leukocytes and old cells.

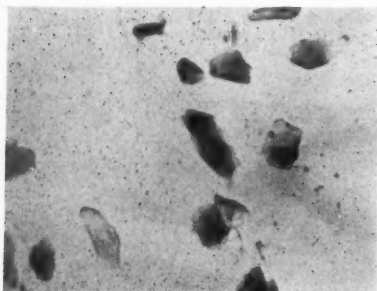


Fig. 4.

Mouse assay vaginal smear. Minimum positive smear. No leukocytes and fewer old cells.

Vaginal smears, taken weekly for 4 weeks before therapy with diethylstilboestrol was begun, read as 1+, 1+, 3+ and 4+.

A mouse assay for oestrogenic substance done on the urine collected the first of these 4 weeks showed 10 mouse units of oestrogenic substance in a 24 hour urine and during the second of these 4 weeks 2 mouse units.

Treatment with diethylstilboestrol was then begun. Two tablets of 1 mgm. each were taken daily by the patient. Three intramuscular injections of 1 mgm. each were given her three times weekly. She continued to take 5 grains of thyroid daily.

Six weeks of this new regimen brought on a menstrual flow lasting four days. It was the first in two years and the longest she had ever had.

Libido increased a little. Six more pounds of weight were lost.

The patient showed a remarkable change in her psyche and state of well-being. Vaginal smears taken from the patient during the first 4 weeks of treatment with diethylstilboestrol were now read as 3+, 2+, 4+ and 4+. A mouse assay for oestrogenic substance during the second week of this new regimen revealed 50 mouse units in a 24 hour urine.

An endometrial biopsy taken after treatment revealed numerous tubular and dilated glands with tall, active epithelium. The stroma was quite cellular (See figure 6).

This case was felt to be one of hypophyseal cerebral endocrinopathy.

In such cases the menstrual deficiency or complete amenorrhea is probably due to the deficiency of the pituitary gland sex hormone while the associated obesity and other metabolic disturbances are thought to be brought about by irregular function in the parhypophyseal area of the mid-brain, especially the hypothalamus.

Case 3¹. P. O., single female, aged 32 complained of never having had a menstrual period at any time in her life.

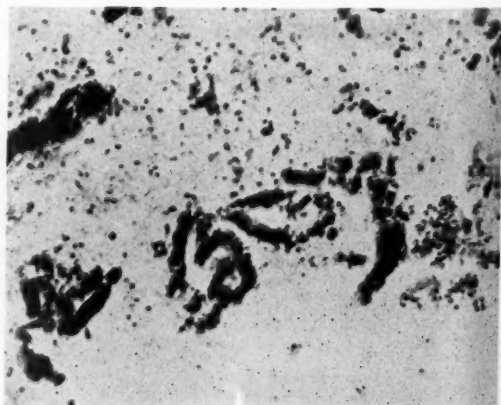
She had had an appendectomy, uncomplicated, at the age of 12. After that time she was seen, and treated, by several doctors. The diagnosis of primary amenorrhea was apparent. Some doctors thought there was a dyspituitarism. Some called it a Lorrain-Levy type of infantism because of her general physical appearance. Others thought it was hypo-function of the thyroid as well as the pituitary gland while others felt it was malfunction of the base of the brain at the stalk of the pituitary gland.

Examination revealed a female 59.5 inches tall, weighing 133 pounds in the nude, with very sparse hair normally distributed. The extremities tapered from well-rounded, slightly obese arms and thighs to small narrow hands and feet with pointed, tapering fingers. The breasts were flat and fatty with no glandular tissue palpable; the areolae pink and the nipples flat and pink. The abdomen was rounded and child-like.

¹This case is included with the permission of Dr. Joseph Joel Friedman, who will report it in greater detail at a later date.

Fig. 5.

Case 2. M. F. Endometrial biopsy before treatment. Scattered, small, simple tubular, non-secretory glands in an acellular thin stroma. (X 100)



The labia majora were full and round as in a child. There were no labia minora. The clitoris was barely discernible. The hymen was intact and semilunar. The mucosa of the vagina was very thin, flat and a bright red in color. This was visualized through a small vaginal speculum. The uterus and cervix, on rectal examination, were felt to be no larger than a hazel nut. The vaginal depth was 9 cm. The adnexa could not be felt. Vaginal smears were like those of a complete castrate (See Fig. 7).

Many kinds of glandular treatment had been administered in the past. Two years ago she received 50,000 international units of an oestrogen in oil (progynon-B) by intramuscular injection monthly in divided doses. At that time she also received anterior pituitary gland preparations and thyroid, grains 1-3 daily.

The changes noted were an increase in breast size with tenderness, some vaginal discharge and an increased state of well being. There was no menstrual epoch.

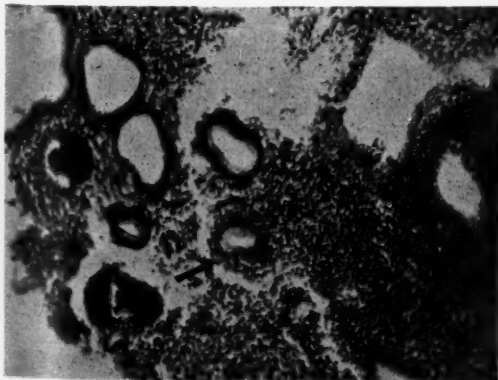
Beginning April 2, 1939, diethylstilboestrol therapy was begun. She was given 3 mgms. by intramuscular injection in one dose every week and one tablet of 1 mgm. daily by mouth.

The vaginal smears taken weekly went quickly to 4+ reaction. Vaginal secretion became marked. Breast and nipple enlargement with tenderness was rapid and marked. An increase in the size of the clitoris soon became manifest. The vaginal mucosa became a pale pink and developed definite rugae. The vaginal depth reached 12.0 cm. The cervix and uterus grew in size so that by June 16, when uterine bleeding occurred, they had reached the size of a mass measuring about 6 x 4 x 4 cm.

Case 4. H. S., married female, age 21, complained of sterility, secondary amenorrhea and a lack of libido. She began to menstruate at 16 years of age. Her first period lasted 4-5 days. Her second period came 2½ years later. After this she would have 2-3 periods a year, each lasting 4-5 days. Her last period prior to treatment was March, 1938. She has been married 3 years and has failed to become pregnant. During these 3 years she gained 20 pounds.

Fig. 6.

Case 2. M. F. Endometrial biopsy after treatment. Numerous tubular and dilated glands with tall, active epithelium. The stroma is quite cellular. (X 100)



The fat rolls of the shoulders and back decreased a great deal as did the fat pads of the hips.

On June 16, 1939, the patient had a profuse flow of vaginal bleeding. Through the vaginal speculum this was seen to be coming from the cervical os. The flow moderated quickly and continued as staining for ten days.

The mental effect on the patient was notable. From a retiring, moody, socially depressed individual she became happy, alert and socially aggressive.

Physical examination was essentially negative. Pituitary or adrenal stigmata were not present. There was no hirsutism or unusual fatty deposits. The uterus and cervix were normal in all respects. The vagina was well developed. The adnexa were normal.

A Rabin test showed both tubes to be patent. X-ray of the pituitary gland revealed a normal sella turcica. Routine blood and urine studies were normal. The Huhner test was normal. Her basal metabolic rate was minus 13 and her specific dynamic reaction was plus 21.

For one year prior to her last menstrual period in March, 1938 the patient was given oestrogenic substance (progynon-B) with no result.

Prior to the start of treatment with diethylstilboestrol vaginal smears were studied each week for 4 weeks and an endometrial biopsy was taken. The smears were read as 1+, 2+, 1+, 1+. The biopsy showed small, simple tubular, angulated glands with inactive low columnar epithelium in an edematous, compact, moderate stroma. The diagnosis was interval endometrium.

Two weeks before treatment was begun a mouse assay for estrogenic substance revealed one mouse unit in 500 cc. of urine. Two weeks after treatment 250 mouse units were found in the same amount of urine. For the first 4 weeks after treatment with diethylstilboestrol the weekly vaginal smears were read as 3+, 2+, 3+, 4+.

Her regimen of treatment consisted of 2 tablets of 1 mgm. each daily and 1 intramuscular injection of 1 mgm. of the drug twice weekly; thyroid grain 1 t.i.d. and a high protein diet.

This regimen was begun May 19, 1939. Four weeks later, June 16, 1939, she had a copious menstrual flow lasting 5 days. This was preceded by an increased vaginal secretion, breast tenderness and an increase in libido. The patient admitted slight nausea, from the tablets, after questioning.

Comment:

THREE cases of secondary amenorrhea and one of primary amenorrhea were treated. One of the cases of secondary amenorrhea was due to an x-ray castration. The vasomotor symptoms were completely controlled in these 3 patients. All three had a return of menses after 4 to 6 weeks of treatment. It is too early to know what the effect upon the sterility of these patients will be.

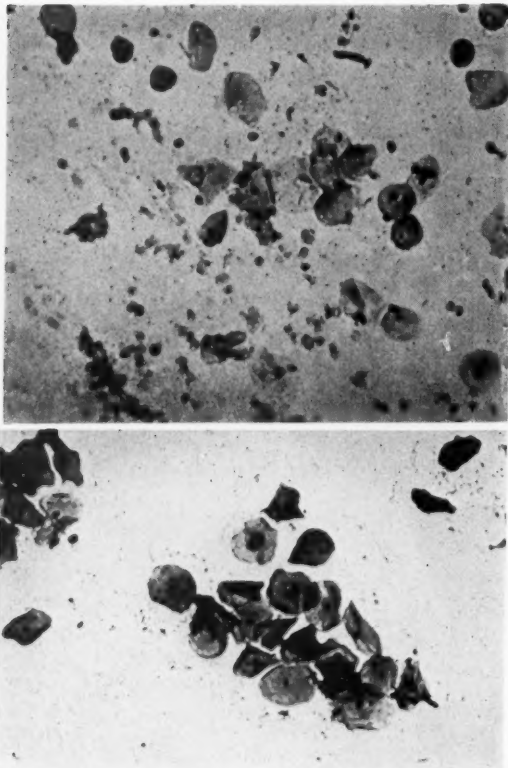
One of the patients had marked nausea and abdominal cramps with 2 tablets taken daily by mouth but was free of these complaints on one tablet daily.

In the patient with primary amenorrhea, 9 mgm. of the drug (6 by mouth and 3 by hypo.) weekly brought on a remarkable change in the patient's mental state, pronounced physical changes and uterine bleeding after 13 weeks of treatment. This was the first vaginal bleeding this patient had ever had. No other treatment was given. The patient was on no special diet and received no thyroid pituitary substance or other medication.

Case 5. A. A., married female, 45 years of age, complained of

Fig. 7.

Case 3. P. O. Vaginal smear before any treatment. Leukocytes in marked profusion. Epithelial cells small, round and cuboidal with large nuclei.



hot flushes, headaches, dizzy spells and nervousness for two years. Menstruation began at 13 years of age and was regular every 28 days, each period lasting 4-5 days. Her last normal period was March 30, 1939. She had three children, the last born 21 years ago. She had no serious illness nor abdominal operations. Previous therapy consisted of one ampoule (10,000 international units) of oestrogenic substance in oil (progynon) administered intramuscularly once weekly. This afforded the patient complete relief of her symptoms. Beginning April 8, 1939, the patient was given 1 ampoule of diethylstilboestrol weekly. On April 8th, 15th and 22nd she received her injections and was completely free of symptoms. On May 6th she got no injection and symptoms returned. May 13th she was again injected and her symptoms disappeared. May 27th she again failed to return for her treatment and her complaint returned until June 3rd when one injection again proved to be an adequate control in her case.

Case 6. I. F., married female, age 51, complained of severe and frequent hot flushes, head-

ache, dizzy spells, deafness and occasional nausea and sweats for three years. Her menstrual history was a normal one, the last period occurring in the fall of 1936. She had three children, the last born 22 years ago. She had no serious illnesses and no abdominal operations. Previous therapy (progynon-B, 10,000 international units intramuscularly once weekly) proved quite adequate in the control of her symptoms. Diethylstilboestrol was used weekly, intramuscularly, from April 2nd, 1939, to date and has proved to be just as adequate.

Case 7. C. M., divorced female, age 38, complained of flushes, headaches, eyestrain, weakness, nervousness and loss of ambition for 1 year. It is of interest to note that the patient stated that her mother had a "change of life" at 35 years of age, her aunt at 38 years of age and her sister at 34 years of age. Menstruation began at 16 years of age, occurred every 28-30 days and lasted four days each time.

The patient still menstruates regularly. She had two children, the last born 9 years ago. She had no abdominal operations and had one major illness, pneumonia, in January, 1939.

Previous therapy consisted of 1 ampoule of 10,000 international units of oestrogenic substance (progynon-B) by injection weekly and 3 tablets of 2,000 international units each orally (progynon DH) every day. Later this was reduced to one tablet daily and one injection weekly. This regimen controlled all of her symptoms.

On April 17th, 1939, she was started on diethylstilboestrol. One tablet of 1 mgm. was given orally, daily. She continued to enjoy complete relief from all of her previous symptoms. Her weight increased from 111½ lbs. to 114 lbs. Her blood pressure was constant at 120 systolic over 70 diastolic. On May 14th and June 12th she had normal menstrual periods with no complaint.

Case 8. C. S., married female, age 39, complained of missing periods, nervousness, flushes and fatigue for one year. Menstruation began at 12 years of age, occurred every 30 days and lasted

Fig. 8.

Case 3. P. O. Vaginal smear after 8 weeks of treatment. Leukocytes absent. The epithelial cells are flat, larger, with sharply curled and serrated edges. The nuclei are small and pyknotic. Many cells are present with no nuclei. Some cornification of the epithelial cells is present.

3 days. Each period was preceded by abdominal cramps, she was aborted in 1921 and in 1926. In 1928 she was pregnant and delivered normally at term. She had typhoid fever at 9 years of age, a tonsillectomy in 1927 and a hemorrhoidectomy in 1936.

Previous therapy consisted of a few infrequent and scattered injections of oestrogenic substance (progynon-B, 10,000 international units).

Vaginal smears of this patient taken weekly

for 4 weeks, before treatment with diethylstilboestrol was begun, were read as 1+, 1+, 2+, 2+.

An endometrial biopsy taken during this time revealed small tubular glands, non-secretory, with a scanty edematous stroma. The diagnosis was interval endometrium.

A mouse assay for estrogenic substance 2 weeks before therapy revealed 2 M.U. in 500 cc. of urine. An assay 2 weeks after therapy revealed 10 mouse units.

On May 17th, 1939, regular treatment with diethylstilboestrol was begun. One ampoule of 1 mgm. was injected intramuscularly every other day and one tablet of 1 mgm. was taken orally on alternate days. Complete relief of all symptoms was obtained. On June 5th the patient menstruated and treatment was suspended for a few days. She is still on the same regimen, feeling well and without symptoms.

Vaginal smears taken weekly during this treatment were read as 1—, 1—, 2—, 3—, in that order as treatment progressed.

Comment:

FOUR women with the menopausal syndrome were treated with diethylstilboestrol. Three of these had complete relief of all symptoms on oestrogenic therapy (progyon-B). Complete relief was also obtained with diethylstilboestrol. The fourth woman was quickly relieved of her symptoms with this drug. No one of the four complained, at any time, of nausea. One woman was adequately controlled on oral doses alone, indicating the effectiveness of this route of administration.

Case 9. F. N., married female, age 23, complained of severe dysmenorrhea. Menstruation began at 12½ years of age and occurred every 26 days, lasting 4 days each period. She has no children and was never pregnant. She has always had severe disabling pain during the first day of menstruation. All types of sedation have been resorted to with very little relief.

Physical examination revealed a normal genital apparatus, the uterus average in size, shape and position.

April 5th, 1939, she was given 1 ampoule of 1 mgm. of diethylstilboestrol intramuscularly. On April 7th she menstruated with only mild cramps on the first day of her period.

On May 1st and 2nd she was given 2 ampoules of this drug. On the 4th of May she menstruated with no pain or cramps.

Again on May 26th she was given 1 ampoule but this time had mild cramps for several hours with the onset of menstruation on May 29th. She went to work without the old fear of being disabled by pain.

On June 21st and 22nd she received one ampoule each day and menstruated on June 24th with no pain or cramps.

Comment:

TWO mgms. of diethylstilboestrol given intramuscularly 2-3 days before the onset of menstruation in this patient gave her complete relief from the pain and cramps which disabled her for several hours during the first day of her period. One mgm. gave inadequate relief, subduing the severe pain but not eliminating the cramps.

Case 10. M. G., married female, age 35, complained of painful breasts beginning 10 days before the onset of menstruation and disappearing

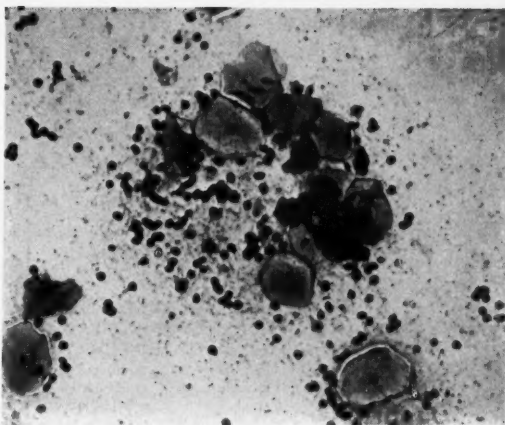


Fig. 9.

Case 3. P. O. Vaginal smear after 13 weeks of treatment and during the first menstrual period of the patient. There are no leukocytes. The epithelial cells are larger and flat and contain very small pyknotic nuclei. Red blood cells are in great profusion. (The RBC appear black due to the blue filter used in photographing them).

with the establishment of the flow. Corpus luteum substance (proluton, 1 mg.) failed to give relief. Another remedy (theelin, P.D.), tried empirically, gave relief. Here 3 injections, intramuscular, were given daily starting 10 days before the period. Each month the period was brought on earlier. The breast pains did not appear.

On April 15th, 1939, the patient was given 1 tablet of 1 mgm. of diethylstilboestrol to be taken orally every day until menstruation occurred. The period was brought on 2-3 days earlier than expected with definite relief of breast pains. Complete relief, however, was not obtained.

Injections of diethylstilboestrol will be tried on this patient to determine their effectiveness.

Case 11. A. B., married female, age 25, had just been delivered of her first baby and did not desire to nurse it. The delivery was normal in all respects.

On the third day postpartum the breasts were engorged and tender. She was given 1 ampoule of 1 mgm. of diethylstilboestrol, intramuscularly, twice daily for 4 days. Fluids were limited and a breast binder applied.

The tenderness disappeared, the breasts receded in size and there was no milk. On the 16th day postpartum the patient was discharged with soft, non-tender, non-caked breasts from the nipples of which a slight watery secretion could be expressed. No complications followed.

Comment:

IT has been noted by other observers that the administration of oestrogenic substances in sufficient dose will cause the breasts to enlarge and become tender. Oestrogen has also been used to relieve tenderness and enlargement of the breasts. The exact reasons and mechanisms for this dual activity of oestrogens are not

definitely understood. In the suppression of the lactating breast the oestrogens are said to neutralize or depress the pituitary gland secretions controlling the lactating phenomenon of the breast. The glands of the breasts slow down in their secretory activity.

In other cases where oestrogens are used to

increase breast size, the glands are said to increase their activity.

In the stroma of the breasts activated to increase growth by oestrogens or is the increase in breast size all glandular?

This subject will be studied more fully and reported upon later.²



Discussion:

THE results obtained thus far, in these patients, indicate that the synthetic substance used, diethyl-stilboestrol, may be as effective as the natural oestrogens, in some cases proving superior. The activity of the drug orally appears to be quite marked. Nausea appeared only twice and was extremely mild in one patient. In the other it disappeared at once when the dose of the drug was cut.

The drug not only induces menstrual bleeding but causes growth of the uterus as indicated in the patient P. O., case 11. It also caused a change in the vaginal smears of the patients studied. Lactation was definitely inhibited by the drug in one patient where it was used to accomplish this purpose. This study is being continued with successful results in other cases which will be reported in a later paper.

The distressing symptoms of the menopausal syndrome were controlled by the use of diethyl-stilboestrol. Oral administration here appeared to be as effective as the intramuscular route.

² (Breast biopsies, using the biopsy aspiration needle designed by Irving Silverman, M.D., of the Tumor Clinic, Caledonian Hospital, will be used in these studies.)

Summary

THREE cases of secondary amenorrhea, one of primary amenorrhea, one of severe dysmenorrhea, one case of a lactating breast, one case of premenstrual breast tension and four cases of patients in the menopause were studied before and after treatment with the synthetic diethyl-stilboestrol or neo-oestranol I.

The synthetic drug was found to act in every way like the natural oestrogens and to be highly effective by mouth.

Dysmenorrhea and amenorrhea responded quickly to the material.

Lactation could be inhibited.

The vasomotor symptoms associated with the menopausal syndrome were easily and completely controlled.

The drug is essentially non-toxic and harmless. The side reactions were not too distressing.

Improvement in the patients' symptoms was almost always associated with a transformation of the vaginal smears to the oestrus type.

This report can only be construed as a preliminary one and further studies with confirmatory laboratory checks are contemplated.



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Note:—Neo-oestranol I, pure diethyl-stilboestrol in tablet and ampoule form, was furnished for these studies through the kindness of Crookes Laboratories, Inc.

STUDIES IN DIABETES NO. 11

MECHANISM OF *Carbohydrate* METABOLISM

THREE important physiological systems take part in the mechanism which makes possible the complete metabolism of carbohydrate food-stuffs. They are the central nervous system, the endocrine system and the tissue cells. Each of these co-operates with the other two to bring about the equilibrium which results in a normal blood

sugar. Furthermore, it is by means of the rise and fall of the blood sugar that the potentialities of these systems are brought into play to attain this result. Although the final oxidation of glucose and the storage of reserve glycogen occurs only in the tissue cells, the transportation of the digested glucose from the portal system to the tissue cells cannot take place until insulin from the pancreas has acted upon it. Lacking insulin action, as in diabetic states, glucose remains in the blood vessels and the blood sugar rises to high levels. For this reason the production and discharge of insulin seems to be the most important and first step which is absolutely necessary before glucose can start on its journey to the cells where it is to be oxidized. But please notice that insulin is not di-

rectly involved either in the oxidation of glucose in the cells or in the formation of glycogen, since both processes take place in animal experimentation after the pancreas has been entirely removed. Since insulin is of such outstanding importance, let us investigate the various factors initiating its production or controlling its ac-

tion. We will assume that the economy is in the state of a fasting individual before breakfast. Here the chief factor stimulating insulin production is the rising blood sugar in the pancreatic artery following the admission of new carbohydrate food. This rising blood sugar also produces effects in the other systems which clear the field of factors which oppose the action of insulin. For instance, the increase of sugar concentration in the brain suppresses the nerve impulses which are responsible for the production of epinephrine by the medulla of the suprarenals; and likewise impulses which normally initiate the production of the pituitary hormones are diminished by this rising blood sugar. On the other hand, hypoglycemic states in the brain increase the impulses sent to the pituit-

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ary and adrenals and thus oppose insulin action by increasing adrenalin secretion and the diabetogenic influence of the pituitary; and like impulses, sent through the vagus from the sympathetic system by way of the inhibitory fibers demonstrated by Clark, likewise diminish the action of insulin. Thus the rise and fall of the blood sugar brings about the production of insulin and starts up carbohydrate metabolism, and likewise sets in motion controlling forces through the agency of the central nervous system which prevent an excessive production of insulin and maintain equilibrium and a normal blood sugar. In this way the blood sugar, or, in other words, sugar from the food, itself is the motive power which sets in motion the mechanism or series of physiologic acts which results in the production of insulin and clears the way for its normal action.

THE next step after the glucose has been admitted to the blood is to transport it to the cells. This can only be accomplished by the catalyzing effect of insulin or by the osmotic pressure of high concentrations of blood sugar at 400 mgm. or more, such as occur in depancreatized dogs; and which form the basis of Soskin's finding, viz., that such dogs can utilize as much glucose at those levels as a normal dog can at normal levels; and of course the cells cannot oxidize glucose until it has been brought to them through the walls of the capillaries and the intercellular spaces. Insulin then is absolutely necessary for the transportation of glucose. I have said that the rising blood sugar in the pancreatic artery was the chief stimulator of the production of insulin at meal time, which is quite true; but there is also constant stimulation from the diabetogenic secretion of the pituitary which excites a continuous production of insulin to neutralize this diabetogenic tendency. The diabetogenic effect of the pituitary has been demonstrated in depancreatized dogs in whom removal of the pituitary likewise removes about 50 per cent of the diabetes existing at the time. Since no glycosuria appears in normal individuals, although the pituitary is exerting this diabetogenic influence continually, it is evident that enough insulin is being continuously supplied to prevent it. This also

results in a greater or lesser accumulation of insulin in the pancreas at all times.

TO return to the subject of the transportation of glucose: The main reason why insulin is necessary for the transportation of glucose to the cells is found in the fact that the glucose molecule is of such large size that it cannot pass through the capillary membranes unless forced through by such osmotic pressure as exists when the blood sugar rises to 400 mgm. or more; and such high levels do not occur in the metabolism of non-diabetics. It is accordingly necessary that this glucose molecule should be changed in some way so that it may pass through these membranes. And it is by the action of the catalytic enzyme insulin acting upon its substrate glucose and aided by a coenzyme containing phosphorus that a union is effected by a process of phosphorylation and esterification between the glucose molecule and the inorganic phosphates by which hexose phosphates and probably other compounds of phosphorus and glucose are formed. Macleod found years ago that inorganic phosphates disappeared from the blood stream at the same time as glucose and that the amounts were proportional, suggesting chemical union of the two. These facts were verified by Noble and many others. So that the conclusion is reasonable that this is the true function of insulin. Insulin, by its action as a pancreatic enzyme acting upon its substrate glucose, and assisted by its coenzyme, brings about the union of glucose with the inorganic phosphates by a process of phosphorylation and esterification which enables the compounds thus formed to pass easily through the capillary membranes to the cells. Insulin, however, has no further action in the metabolism of glucose either in its oxidation or in the formation of glycogen. Also no insulin is found in the general circulation; and Houssey states as a fact of research that if a diabetic dog is injected with the blood from the pancreatic veins of a normal dog its blood sugar falls; this does not occur with injections of blood from the general circulation. It would appear from this that the phosphorylation of glucose by insulin takes place in the

venous system before the heart, by action of the left ventricle, distributes the food-laden blood to the tissue cells where glucose is oxidized. No insulin is found in this arterial blood and none, therefore, plays any part in the cellular metabolism of glucose.

THUS far in carbohydrate metabolism glucose itself, through its gross physical properties, as represented by varying concentrations in the blood, has established a supply of insulin and has acted upon the central nervous system in such a way as to incite the mediating acts of the endocrine system which restore equilibrium and a normal blood sugar after its initial rise. And it now becomes necessary to take a general view of the final oxidation of the glucose molecule in the tissue cells. In the present nebulous state of knowledge of cell metabolism no man is an authority, and a few hypothetical speculations based on research facts are justifiable. Biochemists, however, have established, to a reasonable extent, the existence of a number of definite oxidation-reduction systems by means of which the glucose molecule becomes oxidized. Oxidation in the cells occurs not only by the direct action of oxygen upon the glucose molecule but indirectly in many curious ways. A certain set of substances known as hydrogen-acceptors detach H from a substrate, for instance, and later combine this H with O, thus reducing and oxidizing the substrate. Some of these well-known acceptors are cytochrome, glutathione and Warburg's yellow pigment, each of which is the active agent of a separate oxidation-reduction system. Also taking part in these oxidation processes are a multitude of enzymes and coenzymes acting as catalysts to promote chemical reactions. It is believed that any enzyme which may be required may be produced at will by the cell; and Northrop contends that inert proteins brought to the cells by the blood may become active ferments or co-ferments by cell action. By all these means the glucose molecule is finally oxidized and converted into the end products of CO_2 and H_2O , giving off energy at each stage in its reduction.

NOTHING thus far has been said about glycogen or the reciprocal glycogen-glucose reaction which goes on continually in the cells. And here one must be allowed to speculate. I believe that this reaction is controlled by the enzyme amylase by a direct and reverse action. Macleod states that every kind of a living cell produces amylase (for some purpose); and in man a large supply is produced in the pancreas for the reduction of polysaccharides to glucose before absorption, and this amylase is reabsorbed into the blood stream and conveyed to the tissue cells as a further supply to aid in the glycogenolysis of glycogen to glucose, and by its reverse action, the synthesis (as stated by Parsons in his explanation of enzyme action) of glucose to glycogen when glucose is too abundant.

In connection with the last speculation I beg leave to submit another one. I believe that it has already been shown by experimental evidence that the adrenals have a direct control over the rate at which oxidation may proceed in the tissue cells; and it certainly has been shown that epinephrine accelerates the glycogenolysis of glycogen to glucose. Consider the evidence supplied by complete adrenalectomy. Houssay has shown that if the adrenals are removed by gradual stages from a depancreatized dog, the animal will live for a sufficient time in good condition for reliable facts to be obtained; and these facts show an amelioration of the diabetic state, a rise of the R. Q., and a decreased glycosuria with a decreased excretion of urinary nitrogen. Such results prove that, 1. There has been an increased oxidation (utilization) of glucose. 2. A decreased gluconeogenesis from protein. These facts of research show that if we remove the adrenals with the two hormones, epinephrine and cortin, an increased oxidation takes place in the tissue cells. This is due to the cortin complex and not to epinephrine, for, as I have shown in the early part of this article, epinephrine is controlled from the central nervous system, and is entirely eliminated from action by the high hyperglycemic state of the depancreatized dog. So that it is cortin which regulates the rate of oxidation of glucose in the tissue cells, and retards or ac-

celerates the rate of action of the oxidation-reduction systems.

THIS question of the action of cortin is the central factor in the controversial arguments as to what causes the amelioration of diabetes in the doubly operated Houssay animal. Long inclines to the belief that the pituitary produces its diabetogenic effect by its influence on the production of cortin by the adrenals, so that when either the pituitary or adrenals are removed this diabetic effect is eliminated and the diabetic animal improved. Houssay, on the contrary, states that if the adrenals are also removed from his dogs (which of course lack the pituitary) the injection of pituitary extracts still produces the diabetic effects; which inclines him to believe that cortin is not necessary to produce the diabetic effect, and that the pituitary alone is sufficient. Recently Long claimed to have demonstrated that in the absence of the adrenal cortex no diabetogenic effect is produced by the injection of pituitary extract. This is a direct contradiction of a single fact by two eminent workers.

As usual, both are partially right. Although the effects produced by the two operations are practically the same and result in an amelioration of the diabetes, these results are accomplished in two different ways. Houssay states definitely that cortin has no diabetogenic properties nor any such action in either normal or Houssay dogs. Pituitary extracts on the contrary have such properties, as is shown when they are injected into either normal or adrenalectomized dogs. The pituitary does not depend upon the adrenals for its effect; nor does the cortin of the adrenals depend upon the assistance of the pituitary, since its removal ameliorates diabetes in the depancreatized dog with the pituitary still functioning and producing a diabetogenic effect. I am therefore of the opinion that the pituitary does not produce its diabetic effect through action on the adrenal cortex, as Long holds. The amelioration of diabetes by hypophysectomy seems clear, since its acknowledged general diabetogenic effect is thereby removed. Its amelioration by adrenalectomy cannot be explained in this way, since the cortin complex possesses no general diabeto-

genic properties. How, then, is it accomplished? The answer is, by increasing the oxidation of glucose by means of the oxidation-reduction systems of the tissue cells and diminishing the production of sugar by gluconeogenesis. Houssay has furnished the proof of such action in the experiment of adrenalectomy on the depancreatized dog which I have mentioned before, wherein glycosuria and urinary nitrogen both diminish in amount. If cortin elimination increases glucose utilization and at the same time stops excessive gluconeogenesis, as Houssay's experiment of adrenalectomy in the depancreatized dog conclusively proves, then anyone can see that there must be an amelioration of the diabetes, and that this amelioration must be due to the absence of cortin, which is eliminated by the adrenalectomy of Houssay while the pituitary is still in the body. Now, when he does the same operation in his dogs from which the pituitary has been also removed, he finds that there is still an amelioration of the diabetes. Well, then, why not agree that either cortin hormone alone, or pituitary hormone alone, or both hormones working together in the same direction but in different ways, restrict the oxidation of glucose and stimulate gluconeogenesis; and that their elimination ameliorates diabetes in either the depancreatized or in the hypophysectomized-depancreatized dog as shown by all experiments. Both adrenal and pituitary glands exercise an inhibitory control through their hormones over oxidation in the cells and over gluconeogenesis. If the pituitary is removed the adrenal cortex atrophies (as does the thyroid, the gonads, and probably the parathyroids and other endocrines). If the adrenals are removed cellular changes take place in the pituitary gland. But in both cases an increase of oxidation and a decrease of gluconeogenesis occur, so that I am obliged to draw the following conclusion. In normal metabolism the pituitary gland, assisted by the adrenal cortex, exercises a perfect inhibitory control over the oxidation systems of the cells, and over gluconeogenesis. In animal experimentation removal of the pituitary causes atrophy of the adrenal cortex, and removes all of this inhibitory control, resulting in an amelioration of pancreatic

diabetes. But if the adrenals alone are removed from the depancreatized dog, the increase of oxidation with the rise of the R. Q., and the decrease of urinary nitrogen and gluconeogenesis as proved by Houssay, occur just the same, and these phenomena can only be ascribed to the elimination of cortin; and it is evident that the pituitary, still in the body, has no power to prevent them while functioning normally. But now Houssay, by injecting entire anterior pituitary extract with its unknown number of hormones and creating a generally excessive hormonal influence upon the whole economy, finds a diabetogenic effect present. This simply proves that excessive amounts of pituitary extracts will produce a diabetic effect in adrenalectomized dogs, in the absence of cortin, but it does not disprove the fact that cortin has the power of controlling tissue cell oxidation and gluconeogenesis, since, when the adrenals are removed and the pituitary left in the depancreatized dog, the R. Q. rises and the nitrogen excretion falls, and this is the important point we wish to know in carbohydrate metabolism; i. e., cortin complex, in a normal dog, controls tissue cell oxidation and gluconeogenesis; whether it does this with or without the assistance of the pituitary does not alter this fact, which is necessary completely to explain normal carbohydrate metabolism.

WHILE considering the adrenals it is interesting to note that both hormones exert an influence opposed to that of insulin. As we have just seen, cortin, in normal animals, regulates the oxidation of circulating sugar in the cells by its continuous and gentle action upon them, always restraining too rapid oxidation of carbohydrate supplies, and in this way keeping the blood sugar up to normal but never producing a diabetic effect as the pituitary does; and this, of course, is the reverse of what insulin is doing at the same time in the body. When diabetes intervenes we know that the action of cortin must increase because sugar and increased nitrogen appear in the urine.

Now in the case of adrenalin there is a different procedure. Under normal conditions adrenalin is called out by impulses from the brain in just sufficient

amounts to restrain the excessive action of insulin and restore the equilibrium of a normal blood sugar. When diabetes intervenes these impulses from the brain are suppressed by hyperglycemia and adrenalin ceases to be produced. So that at different times and in different ways both hormones oppose or neutralize insulin action.

IT is also interesting to analyze a little more closely the similar actions of the diabetic hormone of the pituitary and the cortin complex of the adrenals. Both hormones restrain the oxidation-reduction systems of the tissue cells and stimulate a normal rate of liver gluconeogenesis. The pituitary effect is the stronger so that even when acting normally it has a diabetogenic effect upon the blood sugar, which I have previously shown is counteracted by the continuous production of small amounts of insulin. Both hormones likewise possess a life maintenance power and it must be remembered that the adrenal cortex atrophies when the hypophysis is removed. In normal metabolism these glands act just sufficiently to maintain a perfect equilibrium between tissue oxidation of glucose and gluconeogenetic production of sugar by the liver. In diabetic metabolism there is in one set of cases a decreased oxidation of glucose in the tissues and an increased production of sugar by liver gluconeogenesis, and this can only be due to increased functioning of one or both of these glands. This corresponds with the generally accepted belief that either hyperpituitarism or hyperadrenalemia may produce a diabetic state. But I believe that the reverse of this action may also produce diabetes in quite another way, i. e., hypopituitarism or a like condition of the adrenals may cause it. For instance, if tissue oxidation is increased and the production of sugar by the liver decreased by the lack of action of these hormones, a condition of hypoglycemia will result, which will be accompanied by a polyphagia which calls for a much larger consumption of food, and a correspondingly larger production of insulin, with more work for the insulin cells. If this cycle is continued for months and years with increased obesity as a result, it is evident that a point will be reached where the insulin cells

will begin to give out and glycosuria will begin to appear. This I believe is the explanation of most of the cases of diabetes appearing at about the age of fifty years, due to the declining functions of the pituitary or adrenals, which result in the gradual exhaustion of the islet cells of the pancreas. So that diabetes may be caused by either hyper or hypo-functioning of these two glands and their allies. And now just a few more words concerning the importance of the blood sugar as an active factor in carbohydrate metabolism. In view of the preceding evidence it becomes more and more clear that the blood sugar is kept within normal bounds by the action of tissue oxidation in keeping it low on the one hand, and the production of new sugar by liver gluconeogenesis on the other; and that the concentration of blood sugar represents the resultant of these two physiological functions, which are largely controlled by hormones of the pituitary and adrenal glands. So that we must consider the blood sugar both as the motive initiatory force of all carbohydrate metabolism, as well as the resultant of all of its activities.

WITH this preliminary description of the individual factors making up the mechanism of carbohydrate metabolism, it will be interesting to view their interaction upon each other, and to paint a picture of the mechanism functioning as a whole in both normal and diabetic conditions.

Since the cycle of carbohydrate metabolism is continuous, it is necessary to select some time in the cycle as a starting point, and the best time seems to be just before breakfast, when an equilibrium of all the forces has been established, with a blood sugar at an average height of 100 mg. per cent. The new sugar of the meal now enters the economy and starts up a new daily round of metabolism. The new sugar raises the blood sugar, and its increase in the pancreatic artery stimulates the production of more insulin, while its increase in the brain restrains the normal diabetogenic action of the pituitary, as well as the production of epinephrine by the adrenals, thus removing opposition to the action of insulin. As the central nervous system suppresses the

action of the pituitary and epinephrine, such suppression reduces the production of sugar by gluconeogenesis in the liver, and increases the oxidation of existing sugar by the oxidation-reduction systems of the cells. The admission of new food sugar encourages the consumption of existing carbohydrates. While the blood sugar continues to rise the production of insulin continues to increase until it gradually lowers the blood sugar to normal again, whereupon an increasing tendency toward hypoglycemia causes nerve impulses to originate anew in the central nervous system, which once more restore the normal diabetogenic effect of the pituitary, together with the renewal of epinephrine production, and thus once more give rise to an increased gluconeogenesis with more liver sugar, and at the same time a decreased oxidation of glucose by the cells, thus restoring equilibrium and maintaining a normal blood sugar.

But what, you will say, is the function of insulin in all this, and how does it reduce the blood sugar? As I have said before, I believe that the sole function of insulin is to act as a catalytic enzyme upon the incoming food sugar in such a way as to bring about its union with phosphorus by phosphorylation and esterification, and thus to produce a compound which has a tendency to leak out of the blood vessels, and to pass through the intercellular spaces and enter the tissue cells where glucose is to be oxidized. As the sugar passes out of the blood vessels the blood sugar is lowered. The production of insulin depends upon the rise and fall of the blood sugar, and the motive power of the entire carbohydrate metabolism is likewise dependent upon its rise and fall. And the blood sugar relies almost entirely upon the food sugar for its concentration, since the sugar produced from protein and lactic acid by the liver is only a small fraction compared to that derived from the food.

Diabetic Metabolism

DIABETIC metabolism represents the effort of Nature to readjust the deranged normal metabolism to the needs of the body, and, for a long time and in many mild derangements, she may succeed. Hyperglycemia is a constant

symptom of all fully developed cases of diabetes, and there is no doubt that it is the constant overstimulation of the islet cells of the pancreas by the high blood sugar that finally exhausts them and causes a deficiency of insulin. On the other hand, a moderate hyperglycemia may exist for long periods preceding the appearance of glycosuria and during the development of obesity; and, physiologically speaking, hyperglycemia favors, up to a certain point, the metabolism of sugar by increasing the production of insulin and by suppressing the nerve impulses which excite an excessive diabetogenic effect by the pituitary and adrenals. Moreover, hyperglycemia decreases (by its effects on these endocrines) gluconeogenesis, and increases oxidation by the tissue cells. But this beneficial effect only continues up to a certain point, i.e., to the point where the increase of insulin ceases to hold the hyperglycemia within these moderate levels, and exhaustion and atrophy of the islet cells supervene. At this point, as the supply of insulin fails, less and less sugar can be transported to the cells and less oxidation of glucose occurs. The fat metabolism is called upon for energy needs, and, as that fails, acidosis comes on and coma ends the struggle. But since the failure of Nature to reestablish the normal metabolism is due to the failure of the islet cells to supply insulin enough, it is very satisfying to know that we are doing the right thing in supplying exogenous insulin to meet the deficiency. A constant hyperglycemia, then, must precede the establishment of a permanent diabetic state, but the reduction of this hyperglycemia by insulin treatment does not cure the diabetic state when one or more of the individual factors of the metabolic mechanism have been damaged beyond Nature's power to repair them; since, unlike the case of the automobile, we cannot supply new parts to the human machine. The causes of hyperglycemia I have considered in another article (MEDICAL TIMES, N. Y., July, 1938), but much more needs to be said upon that subject. Temporary hyperglycemias may be produced by the hyperfunctioning of almost any endocrine gland, as the thyroid, but this usually subsides and does

not produce a permanent diabetic state. On the other hand, hypofunctioning of an endocrine gland, from aging, as the pituitary or adrenals, may after a long time upset the whole carbohydrate mechanism, resulting in a permanent hyperglycemia (if untreated) and the diabetes which results from it. Many other infectious or dyscrasic diseases, unrelated to metabolism, may interfere with any one of the factors necessary for normal carbohydrate metabolism in either the central nervous system, endocrine system, or in the oxidation-reduction systems of the tissue cells, interfering with the perfect metabolism of glucose and resulting in constant hyperglycemia and diabetes.

Summary

UNDER normal conditions the daily round of CH metabolism is started up by the influx of new carbohydrate supplies from the food, which raise the blood sugar. In the brain this rise suppresses normal nerve impulses usually sent out through the sympathetic system to the pituitary and adrenals, and excites impulses sent out through the parasympathetic system by way of the vagus to the pancreas, resulting in an increase of insulin production and a decrease of the pituitary and adrenal hormones, which prevent insulin action. Insulin production is also stimulated directly by the rising blood sugar in the pancreatic artery. Equilibrium is gradually restored as insulin reduces this blood sugar to normal and the action of the pituitary hormones and adrenalin is resumed.

Transportation of glucose from the blood of the portal system to the tissue cells is accomplished by the catalyzing effect of insulin in bringing about the union of glucose with phosphorus through phosphorylation and esterification. Without such action by insulin glucose cannot leave the blood vessels under normal conditions of osmotic pressure.

Two other very important functions in CH metabolism are the oxidation of glucose by the tissue cells and the production of endogenous sugar by the liver through gluconeogenesis. Fundamentally the sugar supply of the body, originally obtained from the food, is kept within normal limits by the equalizing action

of these two agencies. On the one hand the liver produces extra sugar whenever needed; and on the other the oxidation-reduction systems of the tissue cells reduce excessive carbohydrate supplies and thus maintain a normal blood sugar. Both systems are controlled by endocrine hormones of the pituitary and adrenals, which, in turn, receive their regulating stimuli from nerve impulses of the central nervous system, which, in turn, are controlled by the rise and fall of the blood sugar; this mechanism, in the last analysis, originates and regulates all of the many co-ordinated physiological acts of carbohydrate metabolism. The blood, with its sugar, is the mill stream which turns the wheels of the internal machinery.

EVERY case of diabetes presents a deficiency of insulin, which is caused by the long continued overstimulation of a pre-existing hyperglycemia, which may be brought about by the derangement in function of any of the main factors which play a part in CH metabolism, such as the central nervous system, the pituitary and adrenals, or the oxidation-reduction systems of the tissue cells. Weakness of these various functions may be inherited or acquired. The early giving out of some of these factors, as seen in juvenile diabetics, is most reasonably ascribed to the inheritance of weak pituitaries, pancreases or nervous systems which cannot stand the strains of uncertain habits of eating, children's ailments, exhausting diseases, etc. On the other hand, the average age of incidence of diabetic cases is 51 years, and although some of these may be due to heredity the vast majority are acquired.

It is easy to see that any disease or derangement in function of the central nervous system might easily be a cause of diabetes, since nerve impulses sent out through the sympathetic system control the production of both the pituitary and adrenal hormones, which are distinctly diabetogenic in their action; and likewise, similar impulses sent out through the parasympathetic system are necessary for the proper production of insulin. We should, accordingly, trace some of our cases to the brain as a cause. But, exclusive of central nervous

causes, we find that the pituitary by itself may produce diabetes through hyperfunctioning or hyperpituitarism; in fact, Young has so produced permanent diabetes by the continuous injection of pituitary extracts. Such extracts give rise to a constant hyperglycemia which overstimulates the islet cells until they give out, and a deficiency of insulin results, and diabetes ensues. I have shown in the preceding pages, however, that a hypofunctioning of the pituitary, such as is seen in the slowly developing cases of adults, and which is usually accompanied by overweight or obesity, may also be an antecedent cause of a deficiency of insulin with a constant hyperglycemia and an ensuing diabetes. Hyperthyroidism, by increasing the metabolic rate, may result in hyperglycemia and increased strain on the islet cells. And pernicious anemia and other blood dyscrasias may derange the oxygen carriers so that oxidation of glucose in the tissue cells is interfered with and hyperglycemia develops. It is evident that many different influences may bring about the deficiency of insulin which is the basic cause of all diabetes. Every case of diabetes may, in a sense, be ascribed to heredity, since the various organs which take part in normal CH metabolism are inherited and are subject to limitations of their life span by inherited weaknesses or defects. Weak tissues yield early in life, as in juvenile diabetes, while stronger ones yield later from a process of aging; and the vast majority of individuals inherit sufficiently strong organs, necessary for CH metabolism, to escape diabetes.

There is no one universal cause of diabetes, since a derangement of the mechanism of normal CH metabolism may be produced by an excessive or diminished functioning of one or more of the important factors, found either in the central nervous system, in the endocrine glands, or in the tissue cells, which destroy the perfect equilibrium of CH metabolism and thus produce the diabetic state.

Addendum

THE experiments of Young produce permanent diabetes by the injection of enormous doses of anterior pituitary

extracts, and they might support the theory that hyperpituitarism in humans will produce diabetes in like manner were it not for the fact that no such excessive production of pituitary hormones is regarded as possible in humans. It is also to be noticed that these continuous injections of smaller doses by Evans and Houssay produced only temporary glycosuria without permanence. Let us examine the physiological action of such pituitary injections according to the principles laid down in this article. An increased diabetogenic effect would result. This effect in our view would be caused by an increased inhibition of the oxidation of glucose by the tissue cells, together with an increased gluconeogenesis of sugar by the liver, resulting in a hyperglycemic rise of blood sugar generally. As the sugar rises in the brain, impulses are sent out through the parasympathetic system to the pancreas, increasing the supply of insulin; while a rising blood sugar in the pancreatic artery has the same effect. The amount of extra insulin produced would probably be proportional to the dose of pituitary extract injected. In the cases of Evans and Houssay it was only sufficient to produce temporary glycosuria; in Young's, it was sufficient to cause hydropic degeneration in some cases, atrophy of most of the islets in others, and hyperplasia in others, showing that islets have different degrees of strength from natural inheritance.

The exhaustion or destruction of the islets results in a deficiency of insulin which, if sufficient, establishes a permanent diabetes. These principles are therefore in agreement with the experiments of Evans, Houssay and Young. These injections succeed in producing permanent diabetes by altering two important factors of normal CH metabolism. First, an enormous increase of pituitary hormones from exogenous

sources; and second, a proportionately great increase of insulin through indirect stimulation of the pancreas by means of the central nervous system in response to the general hyperglycemia produced by the pituitary extracts.

This continual overstimulation of the islets causes paralysis of their function or destruction of their substance, and diabetes results. Young's experiments were successful on dogs, and we now have not only a Houssay animal which represents the hypofunctioning (complete) of the pituitary in the hypophysectomized depancreatized dog, but also an equally depancreatized dog, in effect, from hyperpituitarism; which, according to the effect of the excessive injection of other hormones as of the thyroid, gonads, etc., for instance, may have reduced the action of the pituitary as effectively as by hypophysectomy. So that Young's dog equals Houssay's dog, with both the pituitary and pancreas eliminated, and both dogs have an indefinite form of diabetes. With these two factors eliminated Nature still is able to carry on and keep the animal alive because she still has the central nervous system and the adrenal medulla, the tissue cells and the liver functioning to continue a modified CH metabolism. The high blood sugar forces the glucose through the walls of the capillaries into the tissue cells by osmotic pressure (Soskin), thus making up for the lack of insulin, and enabling the tissue cells to continue the oxidation of glucose; while the liver by gluconeogenesis and aided by the secretion of epinephrine keeps the system from a state of hypoglycemia. By these means Young's dogs are enabled to continue their existence for long periods; and by the future detailed study of these dogs, similar to Houssay's study of hypophysectomized - depancreatized dogs, we may expect to derive many more valuable facts concerning normal and diabetic metabolism.

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Unitized ANTIDOTES

BBETTER organization and clarification of our knowledge in the field of toxicology should tend to simplify emergent problems and to reduce occasional confusion and uncertainty in such circumstances.

The practical aim in this instance has been to provide a small, yet adequate, battery of available antidotes, ready and assembled for use when needed, to meet wide indications in common poisonings.

It has been found practicable to devise such an assembly of antidotes, consisting of but thirteen agents of small bulk.

A Minimal Unit (thirteen chemicals) which Provides Antidotes to a Wide Variety (one hundred and forty) of Common Poisonings

The Emergency Antidote Kit (Jacobson) accordingly provides the following antidotes, with an accompanying booklet of instructions:*

Zinc sulfate solution
(one tablespoonful = grs. xx)
Potassium permanganate
Tannic acid
Magnesium oxide
Tartaric acid
Powdered white of egg
Sodium thiosulfate
Starch
Methylene blue
Ferric sulfate solution (10 per cent)
Magnesium sulfate solution (saturated)
Aromatic spirit of ammonia
Also a formula to be used when poison is unknown: animal charcoal, tannic acid and magnesium oxide

* Council accepted.

IT is hoped that the medical profession will find this kit to be a useful auxiliary in meeting temporarily some of the commonest emergency problems encountered in the toxicologic field, so that to have the kit handy will very likely be relatively better and safer for patient and physician than not to have it, just as is

From the Editorial Research Department of the MEDICAL TIMES.

the case with so many other contingencies in medical practice for which we seek to be reasonably well prepared, in accordance with the law and our duty to our patients.

It must be confessed that the treatment of poisoning is in a most unsatisfactory state, and success demands comprehensive and organized knowledge of many conditions which cannot always be adequately set forth in a few words. After study of the best informational sources, the kit has been devised in the light of the above limitations, and its practical value must be

assessed accordingly. Its defects are necessarily the defects of contemporary knowledge and practice, but this is by no means to say that service tending to mitigate the effects of poisons and even to save life might not be rendered by it.

Toxicologists agree that prompt and early administration of an antidote or correct treatment in cases of poisoning is often lifesaving. Valuable time may be lost by the physician in checking the literature to find the correct antidote and

treatment for some of the less common poisons. Additional time is then consumed in obtaining the chemical from the pharmacist.

It was with the purpose of eliminating this possible delay that this kit was devised. It provides, in compact, portable form, a set of commonly used chemical antidotes. The antidotes are provided in quantities sufficient for emergency treatment only. It is suggested that the physician supply this emergency treatment and then make immediate arrangements for follow-up treatments, as the case may indicate.

Substances included as antidotes in this kit which are themselves capable of producing toxic effects in large amounts are present only in comparatively small quantities. Thus the kit contains but ten one grain tablets of potassium permanganate and but ten one grain tablets of methylene blue; only two drams of sodium thiosulfate are included; the zinc sulfate solution produces emesis promptly before corrosive effects can occur and it is so rapid in its effects that there is only brief nausea. The aim has been to avoid any hazard in the use of the kit itself.

As a matter of fact, the kit carries no highly potent drugs, such as morphine, atropine, etc., which may have a place in the treatment of poisoning. It is assumed that the physician possesses them.

A SPECIAL word is called for in connection with hazard involved in the use of potassium permanganate. Large doses would be useful in some cases—provided no tea or coffee had just been given, or was present in the stomach—but useless and even dangerous in others. This affords an excellent illustration of the difficulty of giving routine brief directions for the treatment of certain poisons, or the use of antidotes that are themselves poisonous. Therefore, potassium permanganate solutions should ordinarily be used only for washing the stomach (with few exceptions), they should be evacuated promptly, and the washing should be repeated so long as the washings return colorless. Ten grains to the pint has been recommended in our directions, which, with all suggested precautions observed, represents an attempt to meet judiciously the ele-

ment of hazard invariably presented by potassium permanganate. A suicide has been reported by Adler (*Med. Klin.*, 33, 1914) in which death followed the ingestion of 10 Gm. The management of poisoning by potassium permanganate will be found discussed in the chart.

All the drugs contained in the kit are selected with care regarding U.S.P. requirements.

It must be borne in mind that there are errors in the literature of antidotes. An endeavor has, therefore, been made to provide only accredited antidotes in common use.

The note of warning under the barbiturates regarding the danger of aspiration pneumonia in gastric lavage when a patient is comatose is something to be borne in mind in dealing with any poison-induced coma.

POISONS are listed alphabetically and cross-indexed for quick reference. First, find the poison. Opposite are instructions as to the correct antidote and dosage for first aid treatment.

Poison Unknown: The antidote in this kit, to be used when the poison taken is not known, is a mixture of two parts of activated charcoal, one part of magnesium oxide, and one part of tannic acid. Dose: one heaping teaspoonful in a small glass of warm water.

Such a formula is designed especially to cover poisoning by arsenic, phosphorus, $HgCl_2$, and the alkaloids.

In using this formula it is suggested that vomiting be induced by large drafts of warm water and irritation of the pharynx with the finger.

Evacuation of Stomach: Siphoning out of the stomach with a stomach tube, using plenty of water, is preferred to the emetics in most cases, the major exception being with corrosive acids or alkalies, for it is alleged that severe damage can be done to the upper alimentary apparatus by the tube. Nevertheless, it is the opinion of certain authorities that this warning requires modification. There is practically no tension on the stomach muscles during vomiting, because the stomach merely contracts gently and drives the contents

into the relaxed esophagus; the cardia closes during the act of expulsion of the vomitus from the mouth, hence the gastric muscles have no share in that action. Compression of the stomach by the abdominal muscles cannot rupture it.

If the stomach tube is passed with great care, not more than a few inches beyond the cardia, some authorities claim that there is practically no danger of perforation of the stomach. If such care is observed, they claim that danger of puncture of the stomach does not have to be stressed.

Emetics: each tablespoonful of the zinc sulfate solution in this kit carries twenty grains; this dose may be diluted with two ounces of water and repeated in fifteen minutes if vomiting is not produced. Do not use zinc sulfate if common salt and water have been tried. If a household supply of mustard is available a level tablespoonful may be used in a cupful of water, repeated in fifteen minutes if ineffective.

Demulcents: these should be employed after evacuation of the stomach, and particularly so where poisoning has resulted from swallowing corrosives and irritant substances. The demulcents are white of egg, oils, acacia, starch water, honey, barley or oatmeal gruel, glycerin, flaxseed tea, gelatin, flour and water, crushed banana, and milk. Do not use oil or lard after cantharides, phenol, creosote, copper salts and phosphorus.

This kit contains white of egg in powdered form. Dose: two heaping teaspoonfuls in four ounces of water. Fresh egg whites are preferable if available.

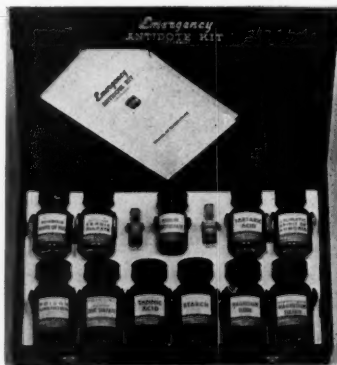
Soap: soapsuds are antidotal in cupful doses in poisoning by corrosives (acids and metallic salts), especially corrosive sublimate. They may also act as an emetic. Do not use in poisoning by alkalis.

Tartaric Acid: for this agent, supplied by the kit, vinegar may be substituted.

The chemicals used in this kit are procured from thoroughly reliable sources and put up by expert pharmacists. The selection of them has been made, and the directions for their use have been written, by eminent physicians, toxicologists and pharmacists.

Suggestions have been made for the general management of a few poisonings for which a kit is not absolutely indispensable—potassium permanganate, carbon monoxide, carbon tetrachloride, camphor, nitrobenzene, potassium chlorate and thallium.

Therapeutic suggestions in brackets relate to auxiliary agents and procedures which, in so far as they may be available to the practitioner will supplement usefully the primary indications met by the kit.



The character of the instructions given may be seen from the following example:

Mercury Compounds; mercuric chloride (bichloride of mercury); mercurous chloride (calomel); mercuric oxide—Give white of egg powder: two heaping teaspoonfuls in four ounces of milk or water. Wash out stomach with one dram of sodium thiosulfate in a pint of water; this volume to be promptly evacuated. Give more milk and lavage with water. Dissolve one dram of sodium thiosulfate in four ounces of sterile distilled water; filter this solution through cotton and administer five drams (three teaspoonfuls) intravenously; repeat this intravenous dose in four hours; repeat in another eight hours; then repeat daily [morphine for pain; dextrose intravenously; caffeine].

The charcoal in the POISON UNKNOWN bottle (2 parts) is also antidotal to the bichloride of mercury.



CULTURAL MEDICINE

Zoroaster's COLLEGE OF SURGEONS AND HIS SCALE OF PROFES- SIONAL FEES

EDWARD E. CORNWALL, M.D., F.A.C.P.
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I AM glad to note the addition of medical history to the curriculum of this staff conference. A regard for the past is proper and profitable. One of the criteria for judging the cultural grade of individuals is their attitude toward the past. The past, as a teacher, has this advantage over the present: it is more experienced; it has perspective; in the light of the past we can evaluate more correctly the facts of the present.

Twenty-five centuries or more ago, the Persian teacher and lawgiver, Zarathustra, or Zoroaster, as the Greeks more euphoniously called him, laid down in the Zend-Avesta certain regulations for the practice of medicine, including the following requirements for surgeons.

"O maker of the material world, O holy one!

"If a worshipper of Mazda desire to practice the art of healing, on whom shall he first prove his skill? On the worshippers of Mazda, or on the worshippers

of the Daevas?

"Ahura Mazda answered: On the worshippers of the Daevas shall he first prove himself, rather than on the worshippers of Mazda. If he treat with the knife a worshipper of the Daevas and he die; if he treat with the knife a second worshipper of the Daevas and he die; if he treat with the knife for the third time a worship-

per of the Daevas and he die, then he is unfit for ever and ever.

"Let him therefore never attend any worshipper of Mazda nor wound him with the knife. If he attend any worshipper of Mazda and wound him with the knife, he shall pay for his wound the penalty for wilful murder.

"If he treat with the knife a worshipper of the Daevas and he recover; if he treat with the knife a second worshipper of the Daevas and he recover; if he treat with the knife for the third time a worshipper of the Daevas and he recover, then he is fit for ever and ever.

"He may henceforth at his will attend worshippers of Mazda; he may at his will treat with the knife worshippers of Mazda and heal them with the knife."

It would appear from the foregoing that Zoroaster required surgeons to qualify themselves by practicing on patients of the lower classes before attempting to operate on patients of the higher classes; that three failures were sufficient to dis-

—Concluded on page 488

Read before the Medical Staff Conference of the Norwegian Hospital, June 12, 1939.

MEDICAL TIMES, OCTOBER, 1939



CONTEMPORARY PROGRESS

Colloidal Aluminum Hydroxide in the Treatment of Peptic Ulcer

E. E. WOLDMAN and C. G. POLAN
(*American Journal of Medical Sciences*,
198:155, Aug. 1939) report the treatment

of 407 cases of peptic ulcer with colloidal aluminum hydroxide. During the period of hospitalization 270 patients were treated by the continuous drip method (25 per cent. solution of colloidal aluminum hydroxide instilled through a nasogastric tube at the rate of 15 drops per minute); 86, who could not tolerate the tube, were treated by oral administration of colloidal aluminum hydroxide—one ounce of a 25 per cent. suspension every hour during the day and every two hours at night; 51 patients were treated by the drip method at first and later by oral administrations. A bland diet was given—small meals every two hours for twelve hours; mineral oil was given daily or enemas every two days, as the aluminum hydroxide tends to cause constipation. In every case there was prompt relief of pain (within twenty-four hours). The ulcer healed rapidly within seven to ten days as demonstrated by roentgenograms in the cases of gastric ulcer; healing of duodenal ulcers is difficult to demonstrate roentgenologically. In several cases ulcers that had been refractory to other methods of treatment healed rapidly under the colloidal aluminum hydroxide treatment. In 101 cases there was massive hemorrhage—hematemesis or melena; in all but 3 cases the bleeding was controlled; 3 patients died; this is a much lower mortality for cases of mas-

sive hemorrhage in peptic ulcer than has been obtained at the same hospital with other methods of treatment. After discharge from the hospital, patients were advised to take colloidal aluminum hydroxide by mouth with a convalescent

ulcer diet; the dosage was 2 teaspoonfuls in 2 ounces of water every two hours during the day. Thirty patients who have continued the treatment for two years

or more have been followed up; none has shown any recurrence of symptoms and the roentgenograms show no evidence of any new lesions in the stomach or duodenum. "Complete laboratory studies" of these patients showed no ill effect of the continued use of aluminum hydroxide, particularly no disturbance of the acid-base balance.

E. R. KYGER, Jr. and his associates (*American Journal of Digestive Diseases*, 6:363, Aug. 1939) report a follow-up study of 58 cases of peptic ulcer treated by colloidal aluminum hydroxide. Most of the patients were treated by oral administration of 4 c.c. of a 10 per cent. colloidal aluminum hydroxide gel six times a day between feedings; six meals daily to be selected from "a list of bland foods" were prescribed. There were 8 hemorrhage cases in the series, 4 of which had been treated by the continuous drip method; 2 other cases of severe duodenal ulcer had also been treated by this method. Complete symptomatic relief was obtained in 89.2 per cent. of cases; in 4 cases (7.2 per cent.), only partial relief was obtained; 4 did not continue treatment. In 40 cases in which follow-up x-ray studies were made, complete



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radiographic healing was demonstrated in 40 per cent. within an average of 98.7 days; in another 22½ per cent, the remaining deformity of the duodenum was considered to represent permanent scarring rather than persistence of the ulcer; 25 per cent. showed radiographic improvement. There were 7 who had recurrence of symptoms; of these 2 had shown complete radiographic healing, and 3 scarring of the duodenum. While constipation was observed in the cases treated by the drip method, none of the ambulatory patients taking aluminum hydroxide by mouth complained of being constipated; this is possibly due to the more liberal diet allowed or to the smaller dosage employed in these cases.

COMMENT

This is an interesting observation, especially since this therapy does not change the acid-base balance, and does not cause constipation when given by mouth. Further investigations should be made. I believe that psychotherapy is also necessary in most of these patients.

M. W. T.

Treatment of the Stokes - Adams Syndrome by Hypertonic Glucose Solution Given Intravenously

L. H. SIGLER (*Annals of Internal Medicine*, 13:101, July 1939) notes that the Stokes-Adams syndrome may be caused by various conditions, but he discusses only those cases in which it is due to ventricular stoppage or ventricular fibrillation. Atropine has no effect in these cases, indicating that vagal hyperactivity plays no part in producing the condition. The author is of the opinion that local circulatory stasis and edema

of the auriculoventricular node, the bundle and bundle branches result in "sudden interference with the nutrition and oxygenation" of the apparatus of conduction. If this is a correct conception, the intravenous injection of "a concentrated solution of any crystalloid" would act as a tissue dehydrant and give relief. A concentrated glucose solution seems best for this purpose, as it has nutritive value in addition to its action as a tissue dehydrant. The author has accordingly given 50 c.c. of a 50 per cent. glucose solution intravenously to 4 patients who developed a Stokes-Adams syndrome. Electrocardiographic studies showed

that there was auriculoventricular dissociation in all with complete stoppage of the ventricles in 2 cases and ventricular fibrillation in 2 cases. In the 2 cases with ventricular stoppage, intravenous injection of glucose relieved the attack; both these patients are living and have had no recurrence of the Stokes-Adams syndrome in two to three months. In the cases of ventricular fibrillation, repeated injections of the glucose solution were necessary to relieve the symptoms; both patients

died subsequently in a recurrent attack. All of these patients had advanced arteriosclerotic heart disease; permanent improvement cannot be expected in cases of this type, but the intravenous injection of hypertonic glucose solution relieves attacks of the Stokes-Adams syndrome and prolongs life; its effects are evidently more permanent in cases in which the attack is caused by ventricular stoppage than in ventricular fibrillation. In younger persons in whom the heart disturbance may

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be caused by infections, hypertonic glucose would probably be of greater value.

COMMENT

This is sound therapy. Several months ago in an editorial in the MEDICAL TIMES, I pointed out that I had found propadrine hydrochloride (phenyl-propanol-amine hydrochloride) a satisfactory drug to use for the Adams-Stokes syndrome. It can be used with older patients because it does not cause retention as ephedrine does. I have given propadrine over a long period of time to some of these patients and I imagine it keeps the attacks down.

M. W. T.

Culture of Human Marrow as an Aid In the Evaluation of Therapeutic Agents

E. E. OSGOOD (*Journal of Laboratory and Clinical Medicine*, 24:954, June 1939) describes his technique for culture of human bone marrow, employing vaccine vials; the technique is simple, requiring no apparatus not found in any well equipped laboratory. Bone marrow can be easily obtained from either sick or well persons by "the simple and relatively painless sternal puncture method." This method can be used for the study of many problems in medicine and biology. In the field of therapeutics it can be used to determine the effects of various drugs on various microorganisms; the effect of the antipernicious anemia principle on pernicious anemia bone marrow; the effect of iron on the marrow of hypochromic microcytic anemia, etc. The author has employed this method chiefly for the study of sulfanilamide and its compounds. He has found that the action of prontosil soluble, di-septal and prontosil maltoside is due to the amount of sulfanilamide released; and that these compounds are less effective than equivalent amounts of sulfanilamide. The method of bone marrow cultures makes it possible to study the interaction of varying concentrations of two different therapeutic agents on the same microorganism. It has been employed to study the effect of sulfanilamide alone, specific serum alone, and a combination of the two on types I and II pneumococcus. These experiments have shown that the combination of serum and sulfanilamide is much more effective

against both types of pneumococcus than either the serum or the drug alone. To demonstrate this superiority of the combined treatment clinically, the study of "hundreds of cases" of pneumonia due to the same type of pneumococcus during one season would be necessary.

COMMENT

This is a valuable aid, especially in sulfanilamide therapy. Bone marrow cultures have been done mostly in research laboratories, but there is no reason why they shouldn't be carried out in ordinary hospital practice.

M. W. T.

Angina Pectoris in Pernicious Anemia

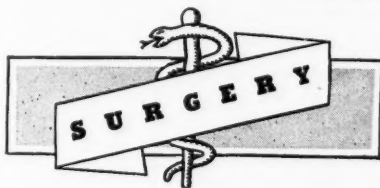
S. VATCHER (*Lancet*, 2:192, July 22, 1939) notes that anginal pain is recognized as a common symptom in pernicious anemia, but as a rule electrocardiographic changes are not found. He reports a case of pernicious anemia in a woman sixty-three years of age in which the electrocardiogram showed some abnormality such as left ventricular preponderance and negative T wave in lead I when a relatively slight degree of anemia was present and before severe attacks of anginal pain had developed. Subsequently when severe pernicious anemia had developed, attacks of anginal pain occurred at rest. An electrocardiogram taken during such an attack suggested coronary occlusion—negative T wave in leads 1, 2 and 4 and depression of the R-T interval. Under intensive liver therapy, the anginal pain disappeared; the electrocardiogram showed slight abnormalities for a time, but subsequently became normal. This patient also had an abdominal aneurysm—a rare condition—which was demonstrated radiographically with unusual clearness because of the calcification of its walls. In this case, there were undoubtedly some arteriosclerotic changes present, as indicated by this calcification of the abdominal aneurysm; and it is probable that there was some arteriosclerotic coronary stenosis. When the oxygen-carrying power of the blood was normal this was not sufficient to cause ischemia of the heart muscle and angina. But when severe anemia developed, reducing the oxygen-carrying power, myocardial anoxemia developed, causing angina and the electrocardiographic changes. These

were again relieved by the intensive liver therapy which corrected the anemia.

COMMENT

No doubt many anginal pains disappear during liver therapy. Also there are some anginal pains which are not associated with pernicious anemia which seem to be relieved by vitamin B₁ administration. The negative T waves in Leads I, II, and IV are characteristic of a vitamin B₁ deficiency. Liver therapy, of course, supplies this vitamin. Some observers, however, have found that the correction of anemia at times brings on coronary pain because the heart has more work to do. It is interesting to observe changes in the size of the heart when there is a vitamin B₁ deficiency and when proper treatment is instituted.

M. W. T.



A Practical and Clinical Test for Liver Reserve

D. MACDONALD (*Surgery, Gynecology and Obstetrics*, 69:70, July, 1939) notes that it is often important in surgical cases to know "the working of the liver"; especially is this true in biliary tract and thyroid surgery, as disease of the gallbladder and thyroid "is always associated with liver pathology, or at least with functional changes which produce a loss of reserve power." The author describes a modification of the dye (bromsulfalein) liver function test. With this technique 5 mg. per kg. body weight of the dye are injected intravenously, and determinations of the amount of the dye retained in the blood made every five minutes for thirty minutes (instead of once at the end of the period as in the usual test). A graph is plotted showing the rate of excretion of the dye; comparison of the graph in the case studied with a normal graph indicates the functional power and reserve of the liver very clearly. Even if the liver removes all the dye from the blood at the end of thirty minutes, the rate of excretion may not be normal; the liver may

"hesitate" at the beginning of the period and remove none or very little of the dye in the first few minutes; this would indicate that the liver may have difficulty in dealing with "postoperative toxic products." Failure to remove the dye completely at the end of the thirty minute period indicates a more marked degree of liver insufficiency—which is also indicated by the usual dye test. This test of liver function is of definite value in surgical cases; the operative mortality, especially in gallbladder surgery, may be definitely lowered by selecting the best time for operation as indicated by the test and graphs, and by suitable pre-operative treatment to improve the liver function. It is also of value in determining prognosis in surgical cases.

COMMENT

Of the many tests devised for the estimation of liver function the bromsulfalein test has proven in the experience of physiologists, laboratory workers and clinicians the most reliable.

The author in his article describes a revised technic which makes it possible to determine the amount of dye retained in the blood at 5 minute intervals, as well as the amount at the end of 30 minutes.

This improvement, in his opinion, augments the value of the original test.

In preparing a patient for surgical operation, particularly in the presence of biliary tract and hepatic disease, it has been and still remains good practice carefully to determine the functional capacity and reserve of the vital organs. It is particularly desirable to estimate the presence and amount of liver drainage. The very best approach to a reasonable prognosis in such cases is a thorough and careful study interpreted in the light of sound clinical experience. Laboratory aids, while indispensable and most helpful, must be accepted judiciously and with fine discrimination. They may be most misleading if considered apart from the patient and the circumstances associated with the case. It is well to remember that no one single test can possibly tell the complete story or give the full picture in regard to liver function.

Fortunately, patients probably will demand the benefits of the safeguards provided by the excellent and complete system of preparatory treatment outlined, elaborated and made available in recent years.

Proper attention to the essential details of this program will be reflected favorably in the end results.

T. M. B.

The Z-Incision for the Relief of Scar Contractions

J. S. DAVIS and E. A. KITLOWSKI (*Annals of Surgery*, 109:1001, June, 1939) report the use of a Z-plastic operation in the treatment of scar contractions. The outline of the incision is roughly that of a Z. The central line of the Z incision is made "along the most prominent part of the bridge or web" of scar tissue; the arms of the Z, are parallel to each other and at angles of about 60° to the central line; with this type of incision two broad based triangular flaps result, with the bases opposite each other. The flaps are fully mobilized and all "binding scar tissue" underneath them removed as completely as possible. These flaps are then transposed "so that their outer margins approximate and the tips of the flaps touch the outer corners of the bases of the opposite flaps"; the flaps are sutured without tension with a few one-end mattress sutures of fine black silk "at strategic points"; the rest of the closure is made with horsehair. By this procedure the central line of the incision is elongated, the angles are blunted (to approximately 90°), and the central line lies "transversely across the scar pull." Scar contractions with bridges or webs, the authors note, follow the healing of extensive burns or tissue losses, as a rule, and they may occur in spite of careful treatment of such conditions. They occur most frequently in the axilla, where the extremities join the trunk, in the region of joints, on the hands and feet, in the mouth and on the face and neck. Plastic operative work on such contracted scars should not be undertaken for at least six months after healing has occurred; even a longer delay may be desirable with physical therapy "of one sort or another" in the interval. When operation is necessary, the authors have found that the Z-plastic procedure gives results that compare favorably with those obtained by other methods, without "additional scarring of unscarred areas"; the method can be used also in some cases in which skin grafting would be difficult or impractical.

COMMENT

The method described in this article seems

to have won wide acceptance by plastic surgeons, in the type of cases and under the conditions mentioned by the author. Adherence to the details governing selection of case, preparation for operation, and actual technic will, in the opinion of Dr. Davis, insure a nice plastic result. In many cases more formidable procedures will be unnecessary.

T. M. B.

Drainage and Non-Drainage in Acute Appendicitis

R. B. MILES (*Brooklyn Hospital Journal*, 1:133, July 1939) reports a study of the mortality and morbidity in cases of acute appendicitis in relation to the use of intraperitoneal drains. Only cases of "microscopically verified" cases of acute appendicitis are included in this study. At the Brooklyn Hospital, where this study was made, the use of intraperitoneal drains in cases of acute appendicitis has been almost entirely abandoned in recent years. In the period of 1925 to 1930, intraperitoneal drainage was employed in approximately 55 per cent. of cases; in 1934 to 1938, this type of drainage was employed in only 11.5 per cent. of cases. In 464 cases of acute appendicitis operated in the first or "drainage" period, the mortality was 8.6 per cent.; in the 726 cases operated in the second or "non-drainage" period, the mortality was 4 per cent. In both periods the mortality was highest in cases of acute appendicitis with local and diffuse peritonitis; in the drainage period, the mortality in this group was 15.5 per cent.; in the 132 cases of this group in which drainage was done the mortality was 17.2 per cent., while in 15 cases in which drainage was not done there were no deaths. In the non-drainage period, the mortality in the cases with local and diffuse peritonitis was 9.2 per cent.; in the 149 cases in which drainage was not done the mortality was 4.7 per cent.; while in the 25 cases in which intraperitoneal drainage was employed there were 9 deaths—a mortality of 36 per cent. The incidence of serious postoperative intra-abdominal complications was approximately four times as great in the drainage period (1925 to 1930) as in the non-drainage period (1934 to 1938). The lowered mortality and morbidity in the later series can be

attributed largely to the practice of "non-drainage", as otherwise the two series of cases showed no significant differences.

COMMENT

The author has prepared a paper both informative and stimulating. Drainage and non-drainage in acute appendicitis remains a controversial subject. The problem is complex in that it embraces so many varying elements which together comprise the complete clinical picture.

Variants in pathology, bacteriology, regional anatomy, biochemistry immunity phenomena, etc., enter the picture to the confusion of the student and practitioner alike. Infallible pronouncement is unbecoming and unwise in this discussion.

It is through the accumulation of evidence, brought out by carefully studied and honestly reported experience with the different methods employed in the handling of this problem, that we will be able to approximate the ideal in treatment.

Certainly intraperitoneal drainage is resorted to less frequently today than previously. Proponents of drainage insist upon very definite indications. It cannot be denied that many more important and determining factors other than the institution of drainage influence mortality very materially.

It has been the unwise adoption of drainage, the wrong selection of drainage material, and the improper methods employed in introducing, handling and maintaining drainage which have resulted in P.O. complications and fatalities, when these dire catastrophes have not occurred wholly and solely as a result of the extent and severity of the pathology.

T. M. B.

The Bleeding Tendency in Obstructive Jaundice and Its Correction By Vitamin K

K. B. OLSON and H. MENZEL (*Surgery*, 6:206, Aug. 1939) report a study of 2 series of cases of obstructive jaundice in one of which vitamin K and bile salts were given preoperatively. In the first series of 24 cases, 12 had prolonged plasma clotting times, indicative of a bleeding tendency; and 9 of these patients bled from the wound or from the gastro-intestinal tract after operation or within a relatively short period after admission; 4, or 33 per cent. of these patients, bled severely shortly after operation, and 3 of them died. Of the 12 cases with normal clotting time preoperatively, 3 bled after operation and in 2

of these the plasma clotting time became prolonged before bleeding occurred. In the second group of 14 cases treated with vitamin K and bile salts, 11 had prolonged plasma clotting times—over 120 seconds and over 150 seconds in all but 2 instances. In all but one case there was marked improvement in the clotting time under treatment with vitamin K and bile salts; only 4 of these patients bled to any degree after operation; no serious hemorrhage occurred in any case while under treatment; in the 2 cases in which a serious hemorrhage developed administration of vitamin K had been stopped several days previously and the clotting time had increased. In all cases approximately 1000 units of vitamin K and 4 gm. bile salts were given daily. None were given treatment after operation, as some were unable to tolerate the vitamin preparation and bile salts because of nausea and others maintained normal clotting time. On the basis of the results in these cases the authors conclude that vitamin K and bile salts are "potent factors" in decreasing the bleeding tendency that often occurs in patients with obstructive jaundice, and recommend the use of these preparations both pre- and postoperatively in cases of jaundice.

COMMENT

The cause and prevention of the bleeding dyscrasia of obstructive jaundice have long been sources of great concern, not only to those responsible for the treatment of the jaundiced patient but to a host of scientific workers vitally interested in this problem.

The recent work done by Dann and by Schmidt and Greaves indicates that the trouble is a diminution of prothrombin due to a defective absorption of vitamin K which results from the absence of bile in the intestine.

Clinical experience in the administration of vitamin K and bile salts to these patients has been most satisfactory. The surgeon hesitates no longer in the presence of obstructive jaundice, but with confidence and courage in his newer knowledge he hastens to remedy the primary difficulty, thereby forestalling the dire consequences of prolonged and unrelieved jaundice.

The authors of this article are deeply impressed with the results obtained through the adoption of this treatment in a series of cases as compared with the results obtained in a controlled series.

This method of treatment has met with

wide acclaim in the surgical world. Similar favorable experiences with its use are being reported daily, until it has become a "must" item in the pre-operative preparation and postoperative care of the jaundiced patient.

T. M. B.

Carbamide (Urea) Therapy In Wound Healing

H. G. HOLDER and E. M. MacKAY (*Annals of Surgery*, 110:94, July 1939) report the use of carbamide (urea) in the treatment of surgical and traumatic wounds. In fistulous wounds a strong, usually saturated, aqueous solution of carbamide is employed; such a solution may be employed in other cases where a moist dressing is desired, but as a rule the authors prefer packing traumatic or surgical wounds with carbamide crystals or the use of a carbamide paste. In the preparation of the paste carbamide (crystal urea) and karaya gum are employed, and 0.5 per cent. eucupin hydrochloride is added, to relieve any pain that may be caused by the application of carbamide to denuded tissues. Carbamide is employed in the treatment of all infected wounds and occasionally in "relatively fresh wounds containing dead tissue" until they are "clean". When the wound is clean and granulating other dressings may be employed to complete

epithelialization; the granulation tissue obtained with carbamide dressings is healthy, pink, highly vascularized and "ideal for skin grafting." Carbamide is "mildly bactericidal" but its efficacy "as an adjunct to wound healing" is due chiefly to its lytic action on necrotic tissue and other debris.

COMMENT

This article is one of many appearing in the literature of the past two years or more, calling attention to the value of urea in suppurative and necrotic wounds.

It has the advantage of being cheap, stable and unirritating. Necrotic material dissolves, wound odors are overcome, circulation improves, and the wound gradually shows healthy granulation. It is said to leave unembarrassed the natural tissue barriers and to disturb in no way the natural local resistance. Its use requires no painstaking ritual in application. It seems to be a valuable agent for many of the local infections encountered in general practice. According to C. J. Elmore, in a recent issue of the Journal of the American Medical Association, the use of urea, as described, was anticipated by farmers a generation ago. He instanced the case of the farmer treating fistulous withers in his horse with his own urine. Graham, in the Year Book of Surgery for 1938, relates recorded experiences three centuries past attesting the efficacy of the same remedial agent.

T. M. B.



Urinary Calculi Caused by the Administration of Sulfapyridine

P. GROSS and his associates (*Urologic and Cutaneous Review*, 43:439, July 1939) note that several investigators have found urinary calculi consisting largely of acetylsulfapyridine, in experimental animals which had been given sulfapyridine. Clinical reports of urinary complications in man secondary to sulfapyridine therapy indicate the possibility of "similar manifestations" in clinical practice. The authors report ex-

periments on 40 white rats given 100 mg. of sulfapyridine orally for ten days, then 200 mg. for seven days; this represents an average daily dose of 0.63 to 1 gm. per kg. body weight. During the course of the experiments 4 animals died; all these animals showed hydronephrosis, hydronephrosis and calculi in various portions of the urinary tract; 3 of the 4 animals had shown blood in the urine during life. All the other animals were killed at the end of four weeks; 2 of them had shown blood in the urine but showed no calculi at autopsy; calculi were found (in the bladder) in only one animal; the right kidney showed minute stellate depressions in this animal. Histological examination of the urinary tract showed that more than 60 per cent. of the rats that had been given sulfapyridine showed inflammatory renal lesions consisting of focal infiltration of the interstitial tissue by large monocyctic cells

and a few lymphocytes; there was frequently a hyaline thickening of the basement membrane of adjacent convoluted tubules; about one-third of the animals showed focal dilation of convoluted tubules. These renal lesions are of the same type as observed in animals that show urinary calculi during and after the administration of sulfapyridine. The findings indicate, in the authors' opinion, that acetylsulfapyridine calculi may disappear after the administration of sulfapyridine is stopped. It is probable that this may occur in man as well as in experimental animals. In certain individuals, however, the solution of the concretions might be impeded by precipitation of calcium salts or proteins on the surface of the concretions. The authors are of the opinion that sulfapyridine should not be given "over an extended time period", because of the tendency of the drug to precipitate in the acetylated form in the urine; it should be discontinued at once if symptoms suggestive of urolithiasis develop. If continued chemotherapy is indicated sulfanilamide should be substituted.

COMMENT

When salvarsan appeared it was hailed as a one-dose cure of syphilis. To the arrogant son of a millionaire who, tossing a certain yellow journal on my desk with this claim in it, asked why I did not use it on him, I replied: "That will not be a one-dose cure. I have seen too much syphilis for that false claim." Those were the times of a frenzy: one-dose, all-cure, sure-cure of one of the scourges of the human race.

Now we are having several frenzies: one-drug, many cures, many diseases, cure-all. Sulfanilamide is coming down to the solid earth of dangers and disadvantages, limitations and failures. Common sense is on the job about it.

Sulfapyridine is another. Perhaps it rose even higher into the blue sky of hurrah therapeutics.

Studies in experimental animals, such as those of Gross, proving the direct causation of urinary calculi, serve to show that ALL these synthetic compounds in virtue of their potency must have and do have dangers in equal degree, if used excessively.

V. C. P.

Prolan A Excretion as a Prognostic Agent in Cases of Teratoma Testis

E. J. GRACE (*American Journal of Surgery*, 45:280, Aug. 1939) reports that

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his experience has convinced him of the diagnostic value of the appearance of prolan A in the urine of a man as indicating the presence of teratoma testis. He has never found prolan A in the urine of the normal male, or in cases of benign lesions of the testes; but it is "consistently present" in cases of teratoma testis. Its value as an indication of prognosis is less certain. In 1934 Ferguson claimed that a marked and rapid drop in the prolan A excretion under radiation treatment of teratoma was "a good index of the radiosensitivity of the tumor and a reliable factor on which to base the prognosis." The author's experience does not support the claim that the prolan A excretion in the urine can be regarded as "a reliable" prognostic agent in teratoma testis. In one case of teratoma testis, a marked fluctuation in the prolan A excretion was noted under radiation therapy; after operation the prolan A output dropped to as low as 100 units; but this was followed by a gradual rise to 500 units. Symptoms of pulmonary metastases developed, and a nodule in the right lung was treated by radiation; the prolan A again dropped rapidly, but the patient's condition became "steadily worse" until death. This may be "an exceptional case", but it is evident that "it is inadvisable to place too great reliance on prolan A output as a prognostic agent."

COMMENT

The groundwork and foundation of the endocrines have been well laid. The superstructure of their service is being erected as to limitations and extensions, advantages and disadvantages, diagnosis and prognosis. Teratoma testis is one of the most vicious of neoplasms. As an invasion, it should excite the involved testis to oversecretion of prolan. Hence this hormone should appear in the urine as a diagnostic aid. Its decrease under radiation marks not only the radiosensitivity of the growth but also the temporary quiescence of it. As it cannot mark the disappearance of the growth it cannot be a prognostic sign. Once a teratoma always a teratoma is a fair aphorism.

V. C. P.

Hematogenous Hematuria

C. M. McKENNA and C. La F. BIRCH (*Journal of Urology*, 42:171, Aug. 1939) classify hematuria according to the etiological factor as follows: 1.

Hematuria due to pathological conditions limited to the urogenital tract. 2. Hematuria due to local pathological conditions that are a part of a systemic condition (embolic and metastatic lesions). 3. Hematuria that is a symptom of a systemic disease. The latter group is of interest to the urologist only for differential diagnosis. Urologic manipulation or surgery is not indicated in these cases and "may be definitely harmful." The etiologic factor of the bleeding in this group of hematurias is a pathological condition of the blood elements or the capillaries. The most important general conditions that cause hematuria are the purpuras—either essential or symptomatic—hemophilia, and avitaminosis C. As the kidney hemorrhage may be the chief or only hemorrhagic symptom, these cases may be referred first to the urologist. It is essential, therefore, for the urologist to recognize such cases. The authors report 4 illustrative cases. In one of these, the bleeding was due to purpura hemorrhagica; there were other hemorrhagic symptoms besides the hematuria; the condition was diagnosed by the blood count and prolonged bleeding time. Splenectomy was done. In the second case there was symptomatic purpura secondary to measles. Hematuria was the first and most important symptom; later a few petechiae developed. In the third case the patient was a severe hemophiliac, and the condition had been recognized in infancy. This is not always the case, however, and the authors advise that in cases of severe hematuria in males, especially if there is a history of previous hemorrhages, the coagulation time be determined to rule out hemophilia before attempting urologic manipulation. In the fourth case, hematuria was the only hemorrhagic symptom; bleeding time was prolonged, but platelet count normal; the cevitamic acid content of the blood was below normal, and symptoms were relieved by the oral administration of vitamin C, 400 mg. daily. In the diagnosis of hematuria of uncertain etiology, complete blood studies and determination of the blood cevitamic acid are essential.

COMMENT

Blood in the urine is a symptom which must be traced to its source and cause. Both are usually intrinsic to the urogenital system

itself and require a full urologic workout. Both may be extrinsic to the urogenital system, primarily, but excite intrinsic lesions secondarily. These authors emphasize these facts in different terms, but these concepts are very clear, as stated. Of great importance is their warning that in the second group of patients operation and manipulation (which should include all instrumentation) are harmful. In other words, a urologic work-out just for the sake of it as a study or merely for the scientific enthusiasm of it is harmful. Not a few of this second group depend on the bacteria (or their toxins) of infectious diseases. I have seen hematuria arise seemingly without cause until bacteriology of the urine revealed culturally active colon bacilli almost in masses. Scurvy is a disease in which hemorrhage into almost any part and from almost any organ occurs. It is a nutritional disease due to the absence of vitamin C. Hemorrhage into the urine without explanation demands investigation of vitamin C as one element in the diagnosis. One of the most valuable results of studies such as this one is that they will abolish for all time those excuses for a diagnosis: "symptomless hematuria," "idiopathic hematuria," and "essential hematuria." V.C.P.

Rare Type of Prostatic Hyperplasia

G. J. THOMPSON and H. J. HAMMER (*Journal of Urology*, 42:47, July 1939) report a case of an unusual type of prostatic hyperplasia causing urinary symptoms in a man sixty-eight years of age. One of the authors (G. J. T.) in 1937 reported 2 other cases of unusual types of intravesical prostatic hypertrophy. In the present case there had been nocturia and diuria of moderate degree for two years; two weeks before the admission to the hospital an attack of painless hematuria occurred; the hematuria persisted about a week. An excretory urogram was made, and the 20-minute roentgenogram showed a filling defect—sharply outlined on all sides—approximately in the center of the bladder. Cystoscopy was impossible even with the use of a local anesthetic. A retrograde cystogram showed the bladder outline normal, but a roentgenogram made after the opaque medium was voided showed a concentric circular outline in the bladder. With the patient under a general anesthetic the retrograde-lens cystoscope showed a large subcervical lobe; this was resected without difficulty by the transurethral route;

obstructive tissue was also removed from the lateral lobes. The patient made a good recovery. This case is reported "to emphasize again the fact that bizarre types of intravesical prostatic hyperplasia are not infrequently recorded." The retrograde-lens cystoscope is of special value for the correct diagnosis of such cases. The roentgenographic findings in this case, the authors state, "seem unique."

COMMENT

In the student days of many of us in such cases as this one exploratory cystotomy was the only diagnostic resort. Next came cystoscopy, which, even in its earliest forms, now called rudimentary, made opening of the bladder unnecessary as a purely diagnostic step in most cases. Last and at the present time we have several forms of x-ray study, which either supplement by corroboration or correction a difficult cystoscopy or supplant an impossible cystoscopy, as was largely the fact in the case described. Yet there are a few cases of papilloma of the bladder so extensive that only at cystotomy can the site and extent of their attachment be seen. I recently had a patient, neglected by the family doctor, in whom the bladder wall was never seen by cystoscopy either by myself or two other urologists. Even at cystotomy, the bladder was crammed full of the growth. The course and termination of Thompson and Hammer's case three years or more hence will be interesting.

V.C.P.

Fatty Replacement Following Renal Atrophy or Destruction

F. C. HAMM and J. A. de VEER (*Journal of Urology*, 41:850, June 1939) report that during the past year a series of renal specimens have been collected showing various grades of renal atrophy or destruction accompanied by "corresponding degrees of fatty replacement." This type of "fatty replacement" does not include various types of fatty metamorphosis involving the parenchymatous cells of the kidney, nor true fatty tumors, but is characterized by fatty degeneration, fatty infiltration and fat phanerosis with the appearance of microscopically visible droplets of lipid material chiefly within the cells of the tubules; this the authors consider to be "essentially a hyperplasia of the adipose tissue of the renal sinus." They report 6 cases showing this type of "fatty replacement"; as these 6 specimens were

found in less than 100 consecutive cases of renal disease observed at operation or autopsy, they conclude that this condition is not rare, but relatively common. It was found in varying degrees, from a slight increase of the normal fat content of the renal sinus to "almost complete replacement of the entire kidney". It was induced by various conditions such as senile atrophy, or stones and infection causing atrophic changes. In addition a case of tuberculosis of the kidney is cited from the literature in which there was extensive destruction of the parenchyma accompanied by fatty replacement. In the authors' specimens there was no evidence to indicate that the atrophic changes were caused by the hyperplasia of the fatty tissue either by pressure or invasion. Thus, the authors conclude that the hyperplasia of the fatty tissue in such cases represents a true "fatty replacement" following atrophy of the normal renal tissue.

COMMENT

When organs are damaged beyond the limits of repair (even of deficient repair) the losses are made up in several ways which probably depend on the intensity, penetration and duration of the disease. Rapid, profound, severe disease usually causes disappearance of the cells typical of the organ and their replacement by scar tissue. Slow, less penetrating and milder disease destroys differently. Opportunity is afforded for the organ to take on either fatty degeneration or fatty replacement of the parenchyma cells or a hyperplasia of the normal fat present in the organ. The process seems to reveal the aim of nature to keep the organ more or less in its original form. I recall a case of tuberculosis in which a third of the kidney had been replaced by a cicatrix and fat, while the balance had remained relatively normal for several years of function.

V.C.P.



The Relation of Achlorhydria to the Nutritional Anemia of Children

R. WILSON (*Canadian Medical Association Journal*, 41:176, Aug. 1939) re-

ports a study of 12 cases of nutritional anemia in children, all but 2 under five years of age; 9 of these 12 children showed complete achlorhydria and the remaining 3 marked hypochlorhydria. Dietary deficiency of iron was definitely present in 75 per cent. of the cases, due either to prolonged breast or milk feeding or to deprivation of greens or meat. After stabilization of the reticulocyte count on the ordinary hospital diet, HCl (15 to 30 minims every four hours) was given for an average period of eleven days; in those cases in which the experiment could be completed, iron was given subsequently as ferrous sulphate—10 to 30 gr. daily according to age. While HCl was being given no significant rise in the reticulocytes was observed in any case. Such minor variations as were noted could be explained as due to improvement in the diet. In each case in which iron was given, there was a definite reticulocyte response. The findings indicate that achlorhydria or "an associated deficiency in gastric secretion is a contributing factor in the causation of nutritional anemia in children, evidently by interfering with the absorption of iron." Dietary deficiency is the most common "precipitating causative factor." The administration of hydrochloric acid alone will not cause an immediate response of the bone marrow with reticulocyte production; "it remains to be shown if continuous treatment with acid would improve the absorption of iron in the diet and so improve the anemia."

COMMENT

Nutritional anemia is extremely prevalent among the class of people who have not had access to good medical supervision for their artificially fed infants. This is due to the small amount of assimilable iron present in the formulae made from milk. The administration of iron in large doses has been used as a remedial measure in the treatment of this condition when it appears.

Many studies indicate that a food which contains the proper amount of iron along with its catalytic agent, copper, produces as good results as larger amount of iron administered separately.

The work of Wilbur, with a sugar containing iron and copper in adequate amounts, presents a method for prevention of nutritional anemia which should prove to be of value in aiding the general well-being of infants.

This work clearly demonstrates most likely that 3 to 8 mgms. of iron in the food with .25 mgms. of copper meets the prophylactic iron requirements of an infant under one year of age. O.L.S.

A New Carbohydrate for Prevention of Nutritional Anemia in Infants

C. L. WILBAR, Jr. (*American Journal of Diseases of Children*, 58:45, July 1939) notes that anemia due to an insufficient intake of iron occurring in young children is recognized as a definite clinical entity and is known generally as nutritional anemia. This type of anemia was found to be present in considerable degree among infants and young children of the sugar plantations of Hawaii. In 242 plantation children examined in 1936, the mean value for hemoglobin was 62 per cent. (9.8 gm.) and the mean red cell count 3,700,000. Among children of better economic levels in Hawaii, the red cell counts and hemoglobin approximated the normal. Since 1936 a new type of carbohydrate made by concentrating the juice of sugar cane has been used in all formulas for infant feeding on certain Hawaiian plantations. Chemical analysis has shown that this concentrate contains 1 to 3 mg. iron per 100 c.c.; the iron is "all soluble and nearly all in the ferrous state"; copper is present in amounts of approximately 0.2 mg. per 100 gm. This amount of iron and copper plus that in the milk meets the requirements for adequate supply as determined by various investigators. After a year's use of this new carbohydrate it was found that in 168 children up to three years of age, the mean value for hemoglobin was 74 per cent. (11.8 gm.); the following year the mean value of hemoglobin in 171 children was 80 per cent. (12.6 gm.). In a group of infants under one year of age who were given the new carbohydrate, there was an increase in hemoglobin from 59 per cent. (9.3 gm.) to 74 per cent. (11.7 gm.), then to 79 per cent. (12.5 gm.). In the control group 74 children under three years of age who were given no supplementary iron continued to show an anemia in the two year period (mean value of hemoglobin 57 per cent.). The author is of the opinion that in most

cases the administration of food containing iron in a readily available form is preferable to the administration of iron in the form of medication as a preventive of nutritional anemia.

Relation of Dysentery to the Acute Diarrhea of Infants and Children

M. L. COOPER and his associates (*Journal of Pediatrics*, 15:172, Aug. 1939) report a bacteriological study of 209 cases of acute diarrhea in infants and children; cultures were made from 745 stool specimens in these cases; in one patient who died before a culture could be made, dysentery organisms were found in the gastro-intestinal tract at autopsy. In 102 patients dysentery organisms were recovered, and in 107 no dysentery organisms were found. Thirty-seven of the patients in the dysentery group had organisms of the Sonne type, 59 of the Flexner type and 6 had *dulcete* fermenters. In studying the results obtained with the various culture media, it is shown that sodium desoxycholate citrate is markedly superior as a medium for isolating dysentery organisms. A study of the clinical features of the dysentery and non-dysentery groups shows no significant differences in respect to seasonal incidence, case fatality rate or duration of the gastro-enteritis. There was found to be a marked difference in the age incidence of the dysentery and non-dysentery types of infection, however. In patients under one year of age, the gastro-enteritis was not due to the dysentery organisms in 75 per cent.; while in children over one year of age, 75 per cent. showed the dysentery organisms as the causative agent. It is evident that the percentage of dysentery type infection reported in any study of acute diarrhea in children would be influenced by the age distribution of the group studied.

COMMENT

We are grateful to M. L. Cooper and his associates for the information relative to the relationship of dysentery and other acute diarrheas in infants. In many localities dysentery has been practically eliminated due to the routine pasteurization of milk and the carrying out of other sanitary measures, especially those pertaining to water and sewerage disposal procedure.

Again the question of prevention is the keynote for treatment of gastro-intestinal disturbances and physicians should be constantly on the alert to cooperate with State Health authorities in aiding Legislative procedure which will eventually make the pasteurization of milk universal.

O.L.S.

The Present Status of Diphtheria and Tetanus Toxoids

O. L. VON CANON (*Archives of Pediatrics*, 56:409, July 1939) states that experience has proved that the immunity obtained from a single dose of alum-precipitated diphtheria toxoid is less than that obtained with two doses of this toxoid or three doses of plain toxoid. Three doses of plain tetanus toxoid or two doses of alum precipitated tetanus toxoid have been found to produce appreciable amounts of antitoxin in the blood. While the titer of antitoxin in the blood does not remain at a high level indefinitely, the injections of toxoid appear to produce "a basic immunity", so that an additional injection of toxoid, if there is exposure to infection, produces a protective amount of antitoxin promptly. Such a stimulating injection may be used as a prophylactic measure instead of serum, although the author is of the opinion that serum should still be used when "the chances of infection are great." However, the protection of children against tetanus is desirable because it produces some degree of immunity and a potential ability to produce antibodies when stimulated by an infection, perhaps "an infection caused by an injury thought to be too slight to necessitate medical attention." Also in the case of relatively slight injuries in which tetanus infection is possible but the administration of tetanus antitoxin seems "a little drastic", protection may be secured by giving a stimulating dose of toxoid without the danger of causing serum sickness or other reactions. Ramon and his collaborators and other investigators have found that the combination of diphtheria and tetanus toxoids gives better results than the use of each toxoid separately. Since it is desirable to protect every child against diphtheria, added protection against tetanus may be given "without additional effort" by the use of the combined toxoid. For this pur-

pose the author recommends two doses of combined diphtheria and tetanus alum-precipitated toxoid.

COMMENT

The advent of diphtheria toxoid has practically eliminated diphtheria from among the dreaded diseases of our time. Tetanus, on the other hand, has always been a disease which was insidious in its onset and the physician always feared this complication whenever a serious wound was present among his clientele. To be sure, we could give tetanus antitoxin in prophylactic doses, but this was never a sure preventive. Recently, tetanus toxoid has been added to our armamentarium as a prophylactic for this disease.

Dr. Von Canon and others have shown the importance of giving tetanus toxoid to our patients as a routine measure. In this way the old bugaboo of "serum reactions," which are so prevalent following the administration of tetanus antitoxin, is eliminated.

I believe tetanus toxoid should be routinely administered to the children who have been placed under our care. By so doing, we can eliminate the fear of tetanus, not only from the physician's mind but from the parent's mind as well. It is recognized that the protection produced by the administration of tetanus toxoid apparently does not remain in the body longer than one or two years.

The fact that subsequent doses of tetanus toxoid produce a rapid reproduction of tetanus antitoxin in the blood makes this a safe prophylactic measure without anaphylactic dangers associated with tetanus anti-

toxin.

O.L.S.

Intracutaneous Tests for Determining Susceptibility to Whooping Cough

M. K. BAZEMORE and J. C. WILLIAMS (*American Journal of Diseases of Children*, 57:1246, June 1939) report the results of cutaneous tests with pertussis vaccine to determine if such tests are "a reliable index to susceptibility or immunity" to the disease. In one group of 48 subjects, 7 who had had whooping cough gave negative reactions; of the 41 who had not had the disease 7 gave positive reactions to full strength pertussis vaccine, 34 negative reactions. After immunization with three doses of the vaccine at weekly intervals, all but one of the 7 who had shown positive reactions became negative; one of the 34 with negative reactions had a temporarily positive reaction after two months. Twenty-six of these children were followed up for three years after vaccination; 9 of these were exposed to the disease, and 6 of these developed whooping cough, which was of severe type in 4. In another group of 31 children tested with Sauer's vaccine, 17 gave positive reactions after twenty-four hours, but only one was positive after seventy-two hours. After immunization with the vaccine, only 8 reactions were negative

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qualify them completely; and that three successes were sufficient to put them on the list of qualified surgeons.

Zoroaster also prescribed the following scale of professional fees.

"A healer shall heal a priest for a blessing of the just; he shall heal a master of a house for an ox of low value; he shall heal the lord of a borough for an ox of average value; he shall heal the lord of a town for an ox of high value; he shall heal the lord of a province for the value of a chariot and four.

"He shall heal the wife of a master of a house for the value of a she ass; he shall heal the wife of a lord of a borough for the value of a cow; he shall heal the wife of a lord of a town for the value of a mare; he shall heal the wife of the

lord of a province for the value of a she camel.

"He shall heal the heir of a great house for the value of an ox of high value."

It would appear from the foregoing that Zoroaster graded the fees of the physicians according to the standing and wealth of the patients, and that the fees for women were smaller than those for men. It would also appear that the clergy then, as now, were regularly on the free list. It is interesting to note that among this early Aryan people, the currency of trade was estimated in terms of cattle, thus harking back to the pastoral period of Aryan history. We get a distant echo of this Aryan pastoral period in our English word, pecuniary, which is of Latin-Aryan origin, being derived from the Latin word, pecus, which means herd.

C O R R E S P O N D E N C E

"Doctor, Here's Your Hat"

Arthur C. Jacobson, M.D.,
Editor Medical Times,
95 Nassau Street,
New York, N. Y.

Dear Doctor:

Would you be kind enough to send me a copy of the August MEDICAL TIMES which contains a review of my book? One of my associates drew my attention to it.

I think the blurb is grand, but Wood made a few misstatements, for which he should be called before the ethical relations committee. He crowns me as a specialist. I am not known as a specialist, I have never been a specialist and don't want to be one. He says I am rich. Tell him I will swap bank accounts and financial outlooks with him any time. The revenue from Doctor, Here's Your Hat has already been mortgaged by charity. He accuses me of stealing patients. The patients referred to in my book were reluctantly taken by me when they were discarded by specialists, and what's more they were patients of mine in the first place. I have never taken or chased a patient from a doctor, nor do I ever intend to. He states that I have proved myself a paradox in every chapter. There was no possible chance for a paradox in two hundred and seventy pages of the book, and the book being two hundred and seventy-nine pages, I think even if Wood is sane, my batting average is fairly good.

I am sending you a copy of an article I have just finished (which kindly return) and will you please let Wood read it? Any improvement of his unfinished intellect gained from this article I am sure would be welcomed. What has Wood done for humanity anyhow?

Extend my sincere thanks to Wood for the beautiful things he said about my feeble literary effort.

Cordially yours,

JOSEPH A. JERGER

September 7, 1939.

Dr. Arthur C. Jacobson,
Editor, MEDICAL TIMES,
95 Nassau Street,
New York, N. Y.

Dear Doctor Jacobson:

Kindly permit me to thank you for your courtesy in forwarding Dr. Jerger's letter and his article entitled "The Philosophy of Medical Specialism."

I also desire to let Dr. Jerger know how much I appreciate his thoughtfulness in voluntarily requesting it, and wish to accept his thanks for the beautiful things said about his literary effort. This gives me the opportunity of justifying my opinion expressed in the review of the book "Doctor, Here's Your Hat," which appeared in the August issue of MEDICAL TIMES, as well as the privilege of improving my unfinished intellect by reading and commenting upon his philosophy in the monograph.

The review was definitely from the point of view of a doctor and all following comment on the article is from the same viewpoint. Whatever was said in that review was said in true earnestness and was my honest impression gained from reading the book.

I also thought the blurb was grand—but in regard to misstatements, any individual, doctor or otherwise, may indeed, at some time or other, through misinformation as to actual fact, make such. Of course I do not know Dr. Jerger personally and was only able to form my opinion of him as an author from the impression gained by reading his autobiography. There-

fore I accept his blanket denial of my alleged critical remarks because I concede that he knows himself better than anyone else. However, those impressions gained from reading the book are arguments that cannot be refuted when approached from the point of view of another doctor. I shall be very glad to appear before the ethical relations committee if any benefit will accrue to him from such investigation. Nevertheless it would be very distasteful to me, because nothing is more to my dislike than having to prove a fellow physician wrong in the public eye.

May I take the liberty of addressing myself directly to Dr. Jerger—

Dear Doctor Jerger:

I do not doubt your sincerity in striving for your objective, but your book and enclosed monograph disseminating your quarrel about specialization to the public are certainly striking the American Medical Association below the belt. At no time in its history has the American Medical Association fostered specialism.

The physician as an individual began to specialize and improve himself first in surgery and later in other branches of medicine. Then groups interested in a common phase of medicine organized into special societies, such as the American College of Surgeons, American Academy of Pediatrics and so on. Thus, many groups branched off from surgery and likewise from medicine. As the groups became large and strong enough to make it worthwhile, examining boards were organized.

This specialism could never have prospered had the public not taken kindly to it. It was not long before the public recognized its worth and demanded the services of a specialist at the specialist's own price. The American Medical Association, realizing that some recognized authority should determine who is a competent specialist and that the public should be protected against unwarranted specialists, then organized the Advisory Board for Medical Specialties. Just read the Educational Number of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION dated August 26, 1939, and be convinced.

Oh yes, there still are abuses in specialism, but during its metamorphosis fewer and fewer mistakes are being made. The American Medical Association is lauding the family doctor; even putting him on a pedestal. It is holding the specialist down in order to avoid competition. The specialist can have no practice and must see patients only at the request of the physician. It is almost forcing the family doctor to remain the most important unit in this complex medical world.

In your book you cite many instances of successful results from major surgery (Lane plate, gallbladder, etc.), and you became connected with a hospital in Chicago ostensibly to operate on patients. A medical man on a hospital staff does no surgery—you are a surgeon—you are a specialist—nothing else can be inferred from your book. It is only sentiment that makes you wish to retain the title "The Old Family Doctor"—why did you build your own hospital if it were not to do surgery? It takes money to build a hospital, no matter how small, equip it and staff it with nurses, and it takes more money to give it up, travel around the world and to Australia, and start all over again in a big city. You relate all that in your book—is it any wonder that I thought you were rich?

You relate many interesting cases in your book, all successful except one and that one successful from the

"Old Doc's" point of view. You might just as well have published so many testimonials because each story related proves what a good doctor you are and many of them try to prove how poorly accomplished the specialists are. Certainly this is self aggrandizement, and it is unethical. And so every opinion expressed in my review was an honest one obtained from my impressions from reading your book. However, I am glad to know that the real author in person never intended such impressions to be conveyed to the doctor reader.

Now in regard to your article, may I, as a brother physician, be permitted to advise you not to publish it for the following reasons:

First: You will only heap more criticism on your head from the profession which you so unjustly criticize and of which you are now so prominently a member. Nothing worthwhile has even been gained from such tactics and your objective, to improve the condition of the family doctor, will be absolutely destroyed.

Second: Your statement that the older school of medicine regrets the trend of modern practice and believes that, as a result of it, organized medicine today is threatening on the one hand by government investigation and socialized practice and upon the other by super-specialism, is not wholly believable. There are many other factors, mainly psychological, which are threatening, certainly not wholly government nor specialism.

Third: The doctor, individually, or as a group, is largely to blame. He has brought about a doubt in the minds of some of the social workers, of the politicians, of the misguided foundations and of the public by his frank scientific discussions in an attempt to improve his own ability and knowledge. He has permitted statistics to reach the public through scientific publications and the lay press which have been grossly misrepresented. Thus, in improving himself by discussing his own problems of how to improve mortality and morbidity rates, of how to correct mistakes of the past and bring better health to future generations, he has thrown himself as a sacrifice to this howling mob. The foundations have greedily grabbed at these statistics with which to condemn the doctor and have brought the information to the politician who, also motivated by greed, is endeavoring to pass laws to add to his power by regimenting medicine under his thumb.

Fourth: You, yourself, give a list of statistics for the benefit of the politician and propagandist who use you as an unwitting instrument in condemning the profession—Here's your list.

1. Granted some 420,000 persons suffer unnecessarily from active tuberculosis, is it the fault of the doctor or the specialist as you wish your reader to believe? No, the profession is improving these figures all the time. It is the fault of poor housing, insufficient food and clothing, disregard by the individual for his own health and disregard of the state for its indigent.

2. Granting that there are 160,000 maternal and infant deaths each year, at least half of which are preventable, the attempt under state and federal supervision with large grants of money has failed to improve the percentage. The profession, however, is constantly improving these figures. Certainly the doctor is not responsible for the carelessness, insanitary habits or malnutrition of these mothers or prospective mothers who do not come under his supervision.

3. Granted 518,000 new syphilis cases and 1,037,000 new gonorrhea cases each year and as many more unreported, how can you hold the doctor responsible for the social evil or that peculiar psychological complex which prevents his contact with these sufferers? Most of these cases will not seek medical aid until almost in extremis. The government cannot supervise clandestine coitus and will not supervise prostitution. The politician and the public must be educated to seek out these cases and place them in the competent hands of the doctor. And the doctor must be compensated. Statistics in New York City show that only a fraction over one per cent of its white population have premarital syphilis when we were led to believe that this dread disease was ten times more prevalent.

The medical profession has certainly kept this great city relatively free from syphilis.

4. Granted 150,000 persons die annually from preventable disease, is it the fault of the doctor that preventive medicine, which for many years has been assumed by the state or its component parts, has permitted this to go on? Organized medicine has supplied the state with all its knowledge regarding etiology and spread of disease. In spite of every vigilance there are some cases that escape attention. Even the Hon. Mr. Wagner in his proposed health legislation makes no provision in his bill for the health of the public or the prevention of disease. The object of this bill is to pay people for being sick and to regiment medicine to do the work.

5. You ought to know why heart disease reached a new high last year. The doctor is certainly not responsible for the jittery nerves of the population. The profession is rather to be congratulated for the tremendous progress made in the diagnosis of this important branch of medicine. The major part of this credit falls on the shoulders of the heart specialist.

6, 7, 8. Why discuss insanity, abortions or the absence of treatment of one-third of the population? Neither the specialist nor the doctor is responsible for the circumstances which have brought about such appalling conditions.

Fifth: What can government do about it? What can social welfare do about it? What can big moneyed foundations do? They can make matters worse by socializing medicine or they may be a great instrument for good by accepting the leadership of organized medicine. Organized medicine is continually improving the mortality and morbidity rates by means of these statistical studies. This is common knowledge among the profession. The ideal will perhaps never be reached but perfection is being gradually approached as far as humanly possible and only through medicine is it possible. In my answer to Josephine Roche I stated that government will never be able to successfully practice medicine through regimentation but medicine can practice government. When we have a better government it will be brought about by the influence of organized medicine and that pioneering spirit of self sacrifice of the individual medical man. Needless to say my letter was not published in the Foundation's copious volumes. America indeed is casting a jaundiced and very greedy eye toward the medical set up. The medical goose that lays the golden egg of health may yet be killed but I strongly doubt it.

Sixth: You state, "The figures grow annually more alarming, largely because of this blight of specialism." It is my personal opinion that the reverse is true. You also quote Thurman Arnold as speaking of "An attempt on the part of one group of physicians to prevent qualified doctors from carrying on their calling and to prevent members of the Group Health Association from selecting physicians of their own choice." You know the truth is contrary to this statement. The first and most important rule laid down by the medical code is free choice of physician by the patient. No member of this government-fostered Group Health Association of Washington, D. C., has that right of free choice. Therefore the Group Health Association is practicing medicine in restraint of trade. It proposed to take something like 30,000 prospective paying patients away from the family doctor in Washington and concentrate them in a group under the supervision of about 6 or 8 doctors and God only knows how many politicians. What matters it if these doctors are competent or not?—the fact is that they are grossly and wilfully violating the moral code of medicine.

No, doctor, the spirit of the "horse and buggy" doctor is not dead. It is merely using modern transportation in its progress. But that spirit has so far out-distanced the "horse and buggy" politician that there is bound to be a conflict. The politician cannot tolerate the wonderful idealism of the medical profession and the high regard in which it is held by the public. The politician must perforce spread propaganda against the doctor in order to obtain public support of laws which will regiment and place him under the control of the ward healer. The politician covets that respect of the public which is pos-

sessed by medicine. Witness the tremendous power and influence wielded by the leaders in those countries where health and sickness as well as life and death are presided over by the politician.

Seventh: Your example of Eddie reads very nicely but it has a terrific kick back. In this story you are exhibiting your wares to illustrate what a great man you are and what an incompetent man a specialist is. By removing a diseased gallbladder from a patient her symptoms of heart disease cleared up. How do you know but that Eddie was treating this patient for a functional heart condition and was just being conservative in his treatment until he found his focus? When the patient was deprived of Eddie's care, due to his untimely death, perhaps she disregarded the diet prescribed and so precipitated the gallbladder syndrome. I cannot understand how you can take any credit away from the specialist in this instance. Certainly the specialist deserves some credit in forestalling the gallbladder attack as well as he did and had he not died the patient might still be leading a useful life without the benefit of the knife. The gallbladder is a very controversial subject. That part of your conclusion drawn from this story that group practice is not favored by the American Medical Association is in error. The American Medical Association does foster group practice. You can probably name from memory a dozen such well known groups that are recognized and there are hundreds more.

Eighth: Do you believe, deep down in your heart and with your wide experience, that one-third of this great nation has little or no medical treatment? Do you really and truly believe this condition is growing worse due to specialism? And do you believe that, if the above were true, it is due to constantly increasing cost of medicine to the individual? Tommy rot! There are 12,000,000 people who, no matter how wealthy, now living in the United States of America who would die before they would call in a doctor. I refer to that great body of religious faddists, such as Christian Scientists and many others. Taken all together they account for between 10 and 20 per cent of the population. And what of others who wait till the bitter end before consulting a physician? In all my life I have never met nor heard of a person who could not get medical attention if he really wanted it whether he had money or not.

Ninth: You state that organized medicine has done great things. It has. It can do greater things if you utilize that God given, driving force, transmitted to you through the Old Doc, to help medicine along its stony path, instead of panning specialism and organized medicine to the public and spreading erroneous propaganda for the politician.

For all of the above reasons I ask you not to publish your "Philosophy of Medical Specialism" without cutting all statistics, all stories of a self-aggrandizing character and all criticism of organized medicine and specialism. The drawing of conclusions from isolated facts is a nice contemplation for a philosopher but to publish such is suicide in the practice of medicine.

Yes, doctor, if you wish to gain your objective, then avoid lending your aid and good name to the unscrupulous propagandist. Continue your talented efforts, writing on such topics as your visit to the panel doctor in England or on human interest stories that will illustrate the high morale and idealism of the family physician and the American medical profession.

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MEDICAL BOOK NEWS

• All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, N. Y.

Edited by Alfred E. Shipley, M.D., Dr. P.H.

Circulatory Disease

FAILURE OF THE CIRCULATION. By Tinsley R. Harrison, M.D. Second edition. Baltimore, The Williams & Wilkins Company, [c. 1939]. 502 pages, illustrated. 8vo. Cloth, \$4.50.

Dr. Harrison has written an excellent book on *Failure of the Circulation*. This title is more accurate than "Heart Failure," because he devotes considerable space to the phenomena of peripheral circulatory failure as well. He divides the book into a consideration of the phenomena of "forward failure" and of "backward failure." The expression "forward failure" refers to the clinical syndrome produced by an inadequate blood supply to the tissues. It may be either of peripheral or of cardiac origin. Among the non-cardiac causes are hemorrhage, traumatic shock and neurogenic collapse. Forward failure due to the heart itself may be caused by such conditions as ventricular fibrillation, Adams-Stokes syndrome, the tachycardias and arrhythmias, coronary thrombosis, diphtheritic myocarditis, cardiac tamponade and massive pulmonary embolism.

The author gives an excellent presentation of the experimental and clinical evidence for and against the modern concepts of forward failure, particularly, angina pectoris and coronary thrombosis. In addition the section on treatment is

very satisfactory.

The remainder of the volume is given over to the presentation of backward failure—the clinical picture usually spoken of as congestive heart failure, and seen in patients with hypertensive, rheumatic, syphilitic heart disease, etc.

"The primary disease process may involve either the heart—as in valvular disease—or the peripheral vascular apparatus—as in hypertension—but in each instance the final result is to render the heart inefficient in the performance of its work." "The manifestations of cardiac failure are to be described chiefly to a rise in pressure in the veins draining into the failing side of the heart. . . . The clinical manifestations of congestive heart failure are due to 'back pressure,' dyspnea being brought about by congestion of the lungs which is a result of back pressure from the

left side of the heart, and edema being due to congestion of the systemic circulation dependent upon 'back pressure' from the right side of the heart."

In addition to the presentation of clinical and experimental evidence in support of the various theories advanced to explain the mechanism of heart failure, the volume contains sections of much practical value on the treatment.

EDWIN P. MAYNARD, JR.

MEDICAL TIMES, OCTOBER, 1939



Classical Quotations

● The prayer that has been mine for twenty years, that I might be permitted in some way or at some time to do something to alleviate human suffering, has been granted.

Walter Reed.

From a letter to his wife.

YOU may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the **MEDICAL TIMES**, 95 Nassau Street, New York, N. Y.

Christopher's Surgery Revised

A TEXTBOOK OF SURGERY. By American Authors. Edited by Frederick Christopher, M.D. Second Edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 1695 pages, illustrated. 4to. Cloth, \$10.00.

Since the first edition of this textbook was published in 1936 it has been widely endorsed by teachers and students as well as practitioners. The plan of a text written by authorities on various subjects, as in the first, has been followed out in the second edition with added illustrations and figures by additional contributors. The contributors are men of outstanding ability in the various fields of surgery, and many are teaching in medical schools.

The subject matter contains the accepted principles of present-day surgery. The second edition, like the first, covers the entire range of surgical material from the introductory chapters dealing with inflammation and repair of tissue, bacteriology, etc., through the conditions met with in the various systems, special sense organs, endocrines, etc. Furthermore such matters as sepsis, anesthesia, minor surgical procedures, preoperative and postoperative care are given full and adequate consideration.

The generally accepted present-day principles of surgery are adhered to, and preferences of procedure are indicated. Where differences of opinion may arise, the authors have been careful to avoid being dogmatic, and have presented the better known and acceptable methods as well as those of individual preference. There have been numerous revisions and additions. The abundant illustrations are

clear and instructive, and this text, like the first edition, is very readable. The book contains a detailed index. All told it is one of the most up-to-date textbooks, and as such is highly recommended for both students and surgeons.

EMIL GOETSCH.

Brain Tumors In Children

INTRACRANIAL TUMORS OF INFANCY AND CHILDHOOD. By Percival Bailey, Douglas N. Buchanan and Paul C. Bucy. Chicago, The University of Chicago Press, [c. 1939]. 598 pages, illustrated. 8vo. Cloth, \$5.00.

This monograph, with an excellent bibliography, consists in the main of 100 case histories with separate comments relative to each. The authors contend that too little consideration is now given to the histological characteristics of brain tumors. Benign tumors should be removed completely, but most of the radical surgery performed on patients with malignant tumors should be abandoned. As stated the story of each of the hundred patients recorded is given in adequate detail. Pathology, generously illustrated with photomicrographs, receives special emphasis.

Chapter XI is devoted to a discussion of the general pathological features of brain tumors in childhood. Chapter XII contains a 60 page discourse on the general symptomatology of intracranial tumors and Chapter XIII is concerned with differential diagnosis.

Doctor Bailey and his collaborators have succeeded in recording a long series of case histories in an attractive manner. Some of the acrimonious remarks directed at certain other authors who have contributed to this subject could have been deleted without impairing the forcefulness of their arguments.

E. JEFFERSON BROWDER.

Barborka's Dietotherapy

TREATMENT BY DIET. By Clifford J. Barborka, M.D. Fourth edition. Philadelphia, J. B. Lippincott Company, [c. 1939]. 691 pages. 8vo. Cloth, \$5.00.

One of the factors that determines the high regard for this book on diet is the fundamental that all diets in health and particularly in disease must meet certain essentials. Barborka, in 1931, published in the *Proceedings of the Staff Meetings of the Mayo Clinic* these essentials:

1. adequate protein.
2. mineral elements in adequate amounts.
(His values for phosphorus and iron are below Sherman's optimum).
3. adequate vitamins.
4. water.

(These factors of paramount importance have been followed in almost all of his diet prescriptions).

In the fourth edition the section on vitamins includes recent discoveries with eighteen pages of new additional subject matter on the clinical aspects of the vitamins, methods of diagnostic aid in determining early vitamin deficiency, and the vitamin requirements of man.

The diet for gall bladder disease without obstruction now suggests the increased use of fat to promote gall bladder evacuation. This edition for the first time includes diet suggestions for hyperinsulinism and the low potassium diet for Addison's disease as developed at the Mayo Clinic. There has been little change in the diet prescription for diabetes except to add a fifth group of diets containing 175 grams of carbohydrate. In the first edition, 150 grams carbohydrate was the upper limit.

"The high fat-low carbohydrate regime is mentioned only for its historical interest. There is no indication for following such a regime at this time." However, Doctor Barborka gives fat up to 232 grams in his higher caloric lists. The diabetic diet lists are in 5 series:

- I. A group of diets containing 70 grams of carbohydrate, 60 grams of protein with fat from 96 to 232 grams.
- II. A group containing 100 grams of carbohydrate, 60 grams protein with fat values from 86 to 217 grams.
- III. Carbohydrate value 125 grams, protein 70 grams with fat values from 92 to 222 grams.
- IV. Carbohydrate 150 grams, protein 70 grams and from 81 to 212 grams of fat.
- V. Carbohydrate 175 grams, protein 73 grams and from 89 to 181 grams of fat.

Clinical use of this type of diet system does not allow variation in caloric value of the diet except by rewriting a complete copy of the whole menu when the

physician wishes to make changes in a patient's diet.

PAUL C. ESCHWEILER.

A Bacteriologist in Fiction

WIDE ROAD AHEAD. The Story of a Woman Bacteriologist. By Anne B. Fisher, New York, E. P. Dutton & Co., Inc., [c. 1939]. 276 pages. 8vo. Cloth, \$2.50.

This is an entertaining novel about a young woman, who, in spite of many trials and tribulations, professional and personal, finally becomes a bacteriology technician. She not only triumphs over the villainies of bacteria, but also vanquishes evil doers in the human species, outwitting ranchers who hide diseased cattle, lonely rangers who seek to assault her virtue, politicians who accuse her of trickery when she discovers hordes of bacteria in the city milk supply, and debtors who refuse to pay for successful antiserum which she supplies during a cattle epidemic.

She finally attains her ambition and becomes the proud possessor of a prosperous bacteriology laboratory. A few mentions are made of some affairs of the heart, but the reader is left guessing as to whether the heroine is married and is happy ever afterward. As material for summer reading, this book is interesting and delightful. A pseudoscientific atmosphere is created by the author, and therefore, the incidents as related should not be taken too seriously.

MAX LEDERER.

Neurotic Illness

CLINICAL STUDIES IN PSYCHOPATHOLOGY. A Contribution to the Aetiology of Neurotic Illness. By Henry V. Dicks, M.D. Baltimore, William Wood & Company, [c. 1939]. 248 pages, 8vo. Cloth, \$4.75.

This book is refreshing in that it espouses an eclectic point of view rooted in clinical studies undertaken at the Tavistock Clinic in London. Whereas the author pays due respect to the founder of the psychoanalytic school and certain of his early associates (Adler, Jung), nevertheless, no opportunity is lost to inject what seems to the writer a rational and clinically determined modification of interpretation into the formulations of the founders of the so-called new school of thought in psychopathology. In this connection emphasis is placed upon the importance of a feeling of security which

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if unduly threatened in certain personalities gives rise to anxiety states.

The contents of the book formed a series of post-graduate lectures at the Tavistock Clinic where the author is Assistant Medical Director. Chapters include topics dealing with anxiety and obsessional states, hysteria, the play of opposites, perversions of sexual aim, abnormalities in sexual function, drug addictions, and finally general considerations which include a philosophic viewpoint emphasizing the need of "psychosomatic unity."

The book is not intended for the beginner but rather for physicians and students of psychopathology who have some first hand clinical experience of the psychoneuroses. The value of the book is enhanced because it represents critical reflections and a digest of opinion of a number of workers in this special field, although first acknowledgment is given to Freud's teachings, which permeate the book.

FREDERICK L. PATRY.

On Exercise

KEEP FIT AND LIKE IT. By Dudley B. Reed, M.D. New York, Whittlesey House, [c. 1939]. (McGraw-Hill Book Co.) 325 pages. 8vo. Cloth, \$2.50.

The book makes light summer reading. In over 300 pages the author presents common sense ideas of exercise, interspersed with delightful anecdotes.

The opening chapters deal with the mechanical, physiological, and psychological aspects of exercise. These are followed by amusing observations on the history of various sports such as golf, bowling, swimming, tennis, etc. There is nothing profound or new in what Dr. Reed has written, yet it does tend to reawaken in one the desire to get as much pleasure as possible out of the different forms of recreation.

The main value of the book lies in the fact that it is propaganda for exercise of all kinds, and that it stresses the necessity for relaxation. In our highly geared and complicated civilization one occasionally has to be reminded that life can be made fuller by means of judicious exercise.

JOSEPH L. ABRAMSON.

Another Heiser Book

YOU'RE THE DOCTOR. By Victor Heiser, M.D. New York, W. W. Norton & Co., Inc., [c. 1939]. 300 pages. 8vo. Cloth, \$2.50.

This book, written for the laity, is free from technical terms, but replete with scientific facts easily grasped by the average reader. It is unique, as it largely represents the wide experience of the author in many lands and under varying conditions. In its way, it is a modern treatise on prophylactic medicine and personal hygiene, which should appeal to all classes of people who are seriously interested in their own health and that of the family. Dr. Heiser is to be congratulated on having produced a book which is not only very readable, but which will be far reaching in its influence for good.

JOSHUA M. VAN COTT.

Popular Orthopedics

FROM HEAD TO FOOT. By Armitage Whitman, M.D. New York, Farrar & Rinehart, Inc., [c. 1939]. 262 pages. 8vo. Cloth, \$2.50.

The popularity for books written by physicians is gaining with the reading public, hence, the increase in this type of literature during the past few years.

In this work the writer tries to explain to the layman the entire specialty of orthopedic surgery, and disseminates much valuable information that even a doctor might profit by reading.

In his last chapter on "Operations" he gives a drawing room description of the major operations employed in orthopedic surgery.

In all, this volume makes interesting reading, and we are sure will make the average citizen "orthopedic conscious."

JOSEPH I. NEVINS.

A Plea for Former Therapy

DRASTISCHE HAUTREIZBEHANDLUNG HEILWEGE BEI INNEREN ERKRANKUNGEN. By Dr. Walter Ruhmann. Leipzig, Verlag von Krüger & Company, [c. 1938]. 115 pages, illustrated. 8vo. Paper, RM. 4.80.

The author advocates numerous methods of treatment which we like to consider as obsolete. Most of these methods lack any scientific justification, i.e. the seton consisting of a skein of hair or silk. The author deserves credit for this almost complete compilation of such methods. However, we cannot agree to make use of them as the treatment of first choice. They may be administered

in a few rare cases where our modern scientific methods have not been successful. That does not imply that we can expect a better result, but it may keep the patient busy and divert his mind from his original trouble. Some of the good results described in the book could be otherwise interpreted. The author believes that many of these old time remedies, so highly esteemed by the ancient physician, will again come into use.

This little book is worth reading, and may stimulate the development of new and better methods.

MAX G. BERLINER.

Plant Toxicology

POISONOUS PLANTS OF THE UNITED STATES. By Walter C. Muenscher, New York, The Macmillan Company, [c. 1939]. 266 pages, illustrated. 8vo. Cloth, \$3.50.

A quarter of a century has elapsed since an authentic publication relative to poisonous plants has appeared. During this period many valuable contributions made by research scientists have greatly broadened the scope of this important and interesting subject. The poisonous principles of plants have been isolated and described; many plants that were not classed as poisonous are now recognized as having definite toxic properties.

In this work the species of each plant considered is arranged according to families. They are then classified according to the chemical nature of the toxic principle, the physiological action of the toxin and the conditions under which poisoning is produced. Another classification arranges the plants according to those that cause dermatitis, those that cause photosensitization, the cyanogenetic group, the introduced poisonous ornamentals, plants producing poisonous seeds, the seleniferous plants, those that produce undesirable flavors in milk, and plants causing mechanical injury to animal organisms.

Each plant is fully described botanically, and the common names and synonyms are given. There are 173 illustrations of poisonous species. The distribution and habitat, poisonous principle, conditions of poisoning and symptoms are given. In a few instances, simple remedies are prescribed.

This book is invaluable to stock owners, veterinarians, toxicologists and to

those who are interested in plants in general. The stock owner can learn much about plants which cause hemorrhages in cattle, labored breathing and great muscular weakness in horses, liver and kidney lesions in sheep, bloating, belching and constant attempts to swallow in horses and sheep, sudden trembling, frothing at the mouth and convulsions in steers. Certain plants are able to absorb selenium compounds from soils from Cretaceous or Eocene shales in sufficient quantities to make them poisonous to animals. "Blind staggers" in horses and cattle, an acute type of poisoning, predominating in Wyoming, is caused by feeding on vegetation made toxic by the absorption of selenium. This is just one of the many important and instructive toxicological observations made regarding selenium.

The reviewer recommends this book highly to those who are economically concerned about poisonous plants and to those who love to wander through the fields and woods and be able to recognize and appreciate the toxic nature of certain plants.

FREDERICK SCHROEDER.

Gynecological Pathology

CLINICAL PATHOLOGICAL GYNECOLOGY. By J. Thornwell Witherspoon, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 400 pages, illustrated. 8vo. Cloth, \$6.50.

In this short volume the author concisely presents the usual gynecological disorders, and includes abnormalities of early pregnancy. He graphically pictures the anatomy by several striking plates. He considers each organ separately, and briefly indicates clinical symptoms and findings. He amply illustrates the pathology by numerous gross and microscopic pictures. The author does not cover traumatic lesions of the soft parts incidental to childbirth, and also omits trichonomas vaginitis. He ably and concisely reviews functional disorders and the physiology of gonadotropic and ovarian hormones. The author's comments on the rational and dosage of hormonal therapeutic agents leans decidedly to the conservative side. The ovarian neoplasms include the granulosa cell tumors, arrhenoblastomas, and disgerminomas.

SAMUEL A. WOLFE.

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A Study On Menstruation

MENSTRUAL DISORDERS. Pathology, Diagnosis and Treatment. By C. Frederic Fluhmann, M.D. Philadelphia, W. B. Saunders Company, [c. 1939]. 329 pages, illustrated. 8vo. Cloth, \$5.00.

In this book the physiology and pathology of menstruation are as well discussed as possible. Truly though, we do not know a great deal. Basic causes of menstrual disturbances still elude us, so that treatment is as difficult and uncertain as it has been. Brilliant investigators like Fluhmann, it is true, have made valuable contributions to our knowledge, yet even he is vague and uncertain when predicting the results of therapy. The photomicrographs are excellent. This book will bring the practitioner up to date, as its merit lies in its authority.

CHARLES A. GORDON.

Latest Revision of Pye's Surgical Procedures

PYE'S SURGICAL HANDICRAFT. A Manual of Surgical Manipulations, Minor Surgery, and other Matters Connected with the Work of House Surgeons and of Surgical Dressers. Edited by Hamilton Bailey, F.R.C.S. Eleventh edition. Baltimore, The Williams & Wilkins Company, [c. 1939]. 512 pages, illustrated. 8vo. Cloth, \$6.00.

This is the 11th recast edition of the book originally published 54 years ago. It has withstood the test of time, and is still among the few books that are avidly studied by the resident physician and surgeon.

The essential and fundamentally important facts of surgery, unembellished by individually developed technical procedures, are clearly set forth, giving the reader a readily accessible source of information concerning surgical procedures recurring daily in the hospital and the office.

GEO. WEBB.

Medical Information for Nurses

A SHORT ENCYCLOPAEDIA FOR NURSES. By Evelyn C. Pearce. New York, E. P. Dutton and Company, [c. 1939]. 686 pages. 8vo. Cloth, \$3.50.

This book is very inclusive in that it describes not only terms and practices used today, but also those more frequently used in the past, and rarely heard today. This alone makes it an exceptionally good reference book for nurses.

The information appears to be accu-

rate, and sufficient detail is used to give clear explanations and definitions of terms and procedures. However, because the author is English, her approach necessarily varies from ours, and this might be confusing to a young nurse.

ALICE W. ANDERSON.

Counsel for the Undersized

SHORT STATURE AND HEIGHT INCREASE. By C. J. Gerling. New York, Harvest House, [c. 1939]. 159 pages, illustrated. 8vo. Cloth, \$3.00.

This little book of one hundred and sixty pages is subdivided into eighteen chapters. The first two-thirds of the book deals with a general narration suitable for lay people, in describing heredity, growth and possible causes for short stature. The final third states clearly the difficulties that confront the short male, and states what little tangible gains in height he might expect. He can, however, create an illusion of temporary tallness by special design in dress, proper mannerisms and carriage. The individual may also find himself taller in the morning after a good, prolonged, relaxed night of rest.

The author is very careful in explaining any possible benefits that might accrue from glandular therapy and advises that such treatment be undertaken through medical guidance. As a final warning to the short person, he should not expect to be much taller than what a special insole might create.

The author appeals to the short person from a psychological point of view, and tries to eliminate any inferiority complex that might develop by citing that greatness is not a factor of stature alone, and that Napoleon, Mozart, Milton and many other celebrated figures were great despite their average short height.

MORRIS ANT.

British Therapeutics

TREATMENT IN GENERAL PRACTICE. The Management of Some Major Medical Disorders. Volumes I and II. Boston, Little, Brown and Company, [c. 1939]. 8vo. Cloth, \$7.50.

A few years ago there appeared in the *British Medical Journal*, a series of articles on treatment in general practice. Contributors were outstanding leaders and clinicians in England.

For the first time these articles are collected and published in this country

in two excellent volumes with an introduction by Reginald Fitz.

Diseases of the respiratory system, specific fevers, cardiovascular diseases are covered in the first volume. The second volume deals with nervous diseases (contributors are well known neurolo-

gists of Queen Square), digestive diseases, blood dyscrasias, rheumatic and metabolic disorders and affections of the genito-urinary system. The two volumes are worth reading for their presentation of sound, conservative British therapeutics.

ANDREW M. BABEY.

BOOKS RECEIVED

for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

ESTUDOS NEURO-PSYCHIATRICOS. By James Ferraz Alvim. Sao Paulo, The Author, [c. 1939]. 114 pages. 8vo. Paper.

MODERN CLINICAL PSYCHIATRY. By Arthur P. Noyes, M.D. Second edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 570 pages. 8vo. Cloth, \$5.00.

SURGERY OF THE EYE. By Meyer Wiener, M.D., and Bennett Y. Alvis, M.D. Philadelphia, W. B. Saunders Company, [c. 1939]. 445 pages, illustrated. 8vo. Cloth, \$8.50.

OPERATIVE ORTHOPEDICS. By Willis C. Campbell, M.D. St. Louis, The C. V. Mosby Company, [c. 1939]. 1154 pages, illustrated. 4to. Cloth, \$12.50.

THE PHYSIOLOGY AND PHARMACOLOGY OF THE PITUITARY BODY. Volume II. By H. B. Van Dyke. Chicago, University of Chicago Press, [c. 1939]. 402 pages, illustrated. 8vo. Cloth, \$4.50.

FUNCTIONAL DISORDERS OF THE FOOT. THEIR DIAGNOSIS AND TREATMENT. By Frank D. Dickson, M.D., and Rex L. Diveley, M.D. Philadelphia, J. B. Lippincott Company, [c. 1939]. 305 pages, illustrated. 8vo. Cloth, \$5.00.

PERIPHERAL VASCULAR DISEASES. Diagnosis and Treatment. By William S. Collens, M.D., and Nathan D. Wilensky, M.D. Spring-

field, Charles C. Thomas, [c. 1939]. 243 pages, illustrated. 8vo. Cloth, \$4.50.

EPIDEMIC ENCEPHALITIS. Etiology, Epidemiology, Treatment. Third Report by the Matheson Commission. New York, Columbia University Press, [c. 1939]. 493 pages. 12mo. Cloth, \$3.00.

THE ART OF ANAESTHESIA. By Paluel J. Flagg, M.D. Sixth edition. Philadelphia, J. B. Lippincott Company, [c. 1939]. 491 pages, illustrated. 8vo. Cloth.

SURGICAL APPLIED ANATOMY. By Sir Frederick Treves, Bart. Tenth edition, revised by Lambert Rogers, M.Sc. Philadelphia, Lea & Febiger, [c. 1939]. 748 pages, illustrated. 16mo. Cloth, \$4.50.

SCLEROSING THERAPY. The Injection Treatment of Hernia, Hydrocele, Varicose Veins and Hemorrhoids. Edited by Frank C. Yeomans, M.D. Baltimore, Williams & Wilkins Company, [c. 1939]. 337 pages, illustrated. 4to. Cloth, \$6.00.

MANUAL OF UROLOGY. By R. M. LeComte, M.D. Second edition. Baltimore, Williams & Wilkins Company, [c. 1939]. 295 pages, illustrated. 8vo. Cloth, \$4.00.

JOHN HOWARD (1726-1790). Hospital and Prison Reformer: A Bibliography. By Leona Baumgartner, M.D. Baltimore, The Johns Hopkins Press, [c. 1939]. 79 pages. 4to. Paper, \$1.00.

CORRESPONDENCE

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Dr. Jacobson, I again thank you and through you Dr. Jerger. I do appreciate the doctor's great literary ability and his frank style. There are many good

Editor's Note.—Such writing talent as is possessed by our Jergers we should wish to see devoted wholly to the best interests of medicine, with allegedly soiled linen, if any,

points in his book and monograph that show great promise which I have not had time to bring out.

Very truly yours,

THOMAS B. WOOD, M.D.

878 PARK PLACE,
BROOKLYN, N. Y.

laundered in our organizations and press. In the present instance we regret the loss of Dr. Jerger's gifts, such as they are, to the profession.

CONTEMPORARY PROGRESS

—Concluded from page 488

at the twenty-four hour reading; all but one were negative in seventy-two hours. Of 21 of the children in this group followed up for eighteen months, 5 are

known to have been exposed to whooping cough; none has developed the disease. On the basis of these findings the authors conclude that intracutaneous tests with specific vaccine are not of value as indicating susceptibility or immunity to whooping cough.



EDITORIALS

Coronary Artery Occlusions and Anastomoses

NOT so long ago, when we spoke of anastomosis as occurring in cases of myocardial lesions resulting from coronary disease, usually arteriosclerotic in nature, it was a presumed, rather than a proved, reparative event. We leaned heavily upon "neurogenic factors" in explaining recoveries without recurrence.

The work of Schlesinger in the Department of Pathology of the Harvard Medical School [*Am. Heart J.* 15:528-568 (May) 1938] has made the prognosis more hopeful in many of these cases. His injection study of 35 hearts from patients ranging from 50 to 80 years of age (7 normal, 8 showing minimal or moderate coronary atheroma, with no anastomoses, and 20 definitely pathologic, of which 15 showed anastomoses) revealed that the anastomotic circulation is sometimes *very rich*, depending upon the degree of coronary occlusion—the more the occlusion the better the anastomosis. Such anastomoses are "specifically designed to compensate for the occlusion." The compensatory blood supply usually comes from the left coronary artery, no matter where the occlusion is, because of its numerous branches.

Anastomoses in the coronary artery system develop "when and where there is need for them. Then and there they develop quite easily and readily and usually to a sufficient degree to compensate adequately." They may develop as a result of heart pathology other than coronary occlusion. Normally, there are no occlusions; only states of disease create them.

The arteriosclerotic process, being steadily progressive but slow, permits, by reason of its gradualness, the an-

astomotic adjustments described.

"A rapid occlusion in one major branch, with all other branches normal, will result in an infarct . . . Slower narrowings, even if numerous, stimulate the development of anastomoses, and the heart is thus prepared for occlusion when it comes."

As to the role of the Thebesian veins (*venae cordis minimae*), connecting the cavities of the heart with the muscular walls of that organ, Schlesinger believes that they nourish an area in the posterior wall of the right ventricle near its base, where there is an absence of large vessels, rarely any infarcts, and never any fibrosis. He suggests that investigators "might well concentrate on this area."

There is a passage in Schlesinger's contribution which arrested our attention, since it seems to invoke vascular peristalsis as an important factor in the cardiac circulatory mechanism. It runs as follows:

The arteries do not serve as mere inert tubes for the passage of blood, but their complicated muscular and elastic tissue walls are also concerned in the local control of that flow.

Major General Epidemos Decrees World-Wide Participation in War

D R. Thomas M. Rivers, of the Rockefeller Institute, points out that we have not as yet any effective weapon for either the prevention or the treatment of wartime influenza, which, on the basis of periodicity, is soon due to visit us again; 1918 over again, or worse.

The superiority of sickness to armaments in determining military issues is axiomatic. This fact played its part in the First World War as in all previous wars. There is no reason to suppose that

Major General Epidemos will command no troops and write no treaties in the present war, in which the whole world may become engaged, from a medical standpoint, whether it shall like it or not.

The moment influenza, typhus, typhoid, pneumonia, dysentery, cholera or plague appear in epidemic form in the European armies and civil populations, at that moment it will be as though a shell had struck our shores; no damage, but a portent of something to come later. That there will be such episodes, charged with latent pandemic potentiality, seems certain.

Epidemic diseases are to be thought of as wild troops likely to get out of hand; once recruited, they strike without discrimination anywhere and everywhere—analogous in human society to the gangster cells of cancer in the body.

When man seeks to destroy himself, says the *Journal of the American Medical Association*, in commenting upon Rivers' recent statement as to what is to be expected in the way of an epidemic from this war, nature stands cynically ready to assist him. Medical neutrality then tends to become an abstraction and an aspiration.

The Psychiatry of War

THE total number of World War mental cases among officers and enlisted men admitted to sick report in the United States and Europe amounted to 97,577. We are speaking only of American troops.

On January 1, 1929, there were 18,393 World War veterans under hospitalization with nervous and mental diseases.

On July 8, 1939, a total of 28,511 beneficiaries were receiving treatment in veterans' neuropsychiatric hospitals.

It is estimated that the peak of patients under treatment will be reached in 1947.

The total costs of these ruined personalities in terms of hospitalization, disability compensation, loss of earning power, etc., are vast.

We are in the habit of weighing the

costs to the world of the last war in terms of the 10,000,000 killed, the 20,000,000 wounded, the half of the world's wealth consumed or mortgaged, and the shaking of all the pillars of civilization, including particularly the destruction of moral standards. But we should ponder the mental and nervous damage

which we have relegated to neuropsychiatric hospitals — as well as the neuropsychiatric probabilities inherent in the next great conflict, should there be one.

It is unlikely that what happened here in the last war will be permitted to happen again in a possible next one.

On July 15, 1918, General Pershing cabled to the Chief of Staff a protest concerning the increasing numbers of mentally dis-

ordered soldiers in the replacement troops arriving from the United States. Inquiry by the Surgeon General developed information submitted by the chief of the division of neurology and psychiatry to the effect that 3,035 men among the troops cited by General Pershing had been rated by the army neuropsychiatrists as totally unfit for military service and recommended for discharge. These men had been carried over to France none the less. They had been found to be suffering from epilepsy, dementia praecox, general paresis, tabes, psychoneuroses, imbecility, etc., and, of course, had promptly broken down completely under the strain of war.

The next war, if there is one, will witness an elaborate technic whereby the fit will be thrown to the shambles and the unfit salvaged. This technic, however, while eugenically dubious, will prevent the hampering of the military forces by over-burdened mental hospitals behind the European war fronts as in 1918. The mental and nervous casualties of the Second World War, should one occur, will be fewer.

In such speculations as these, the fact should be borne in mind that there are large numbers of natural soldiers to whom war comes as an escape from a boring civil life for which they have no



**ESTABLISHED
IN 1872**

aptitude. Their mental and physical health improves through wartime service and they offset in every way the psychoneurotic misfit, thus keeping down what would otherwise be appalling morbidity rates and tending to balance the army's psychiatric budget. These are the men to whom wartime soldiering, uncoerced and properly paid, is a normal vocation—a complete and happy solution of the problems of life. Every effort should be made to have such men replace all psychoneurotics or potential lunatics in the ranks of future armies. Then no longer will neuropsychiatrists like Colonel Pearce Bailey have to write, as he did, that “the introduction of novel and special examinations of so many kinds created great administrative difficulties immediately, as they interfered with established military routine, and it probably was this factor, rather than any lack of open-mindedness as to their usefulness, that was the basis of such opposition as was made to them.”

Diversion of Human Energy

MILLIONS of men are now militarily regimented in the interests of greed, trade, territory and power. Their terrific aggregate of energy is devoted to destructive ends, admittedly leading to general ruin.

Why is it that such energies can be so readily harnessed for such coveted ends and why are such ends coveted?

No small group of men, such as that described in the British Blue Book (Henderson, von Ribbentrop, Hitler, Goering) ever gathers anywhere in the world with power to hurl armies against such paramount enemies of society as poverty, disease, ignorance, superstition, or social injustice.

Either such theologians as Calvin were right in insisting upon the essential moral and spiritual debasement of the natural man—the *fall of man* doctrine, or else something has happened in heaven, where, according to the cynical view of the author of “Seven Gothic Tales”, a Louis Philippe reigns in the place of le Grand Monarque—a *fall of God* doctrine.

In the unconscious mind of all, and in the conscious mind of many, there is a determination to destroy civilization.

Such a force is in a fair way to realize its ends. The insistence of men like President Conant of Harvard that the world is not facing the end of civilization simply suggests a whistling-in-the-graveyard-at-midnight obligato.

Vital Medicomilitary Strategy of the American Revolution

JOHN MARSHALL, in his *Life of Washington*, gives credit to the General for conceiving and working out a piece of medical strategy at a critical time during the War for Independence which went far toward winning the Revolution.

Washington was well aware of how smallpox had nearly cost Great Britain and her colonies the French and Indian War, during which it had been feared much more than the troops of Montcalm. The Albany outbreak of 1756 had been well nigh fatal in its military consequences.

So again in 1777 he found it more fatal in his camp, and more dreaded, than the sword of the enemy. It had been a dreadful scourge. And Washington's troops were finally so few that Marshall calls them an “imaginary” army. Washington, however, deployed the highly mobile, guerilla-like elements of this phantom army so cleverly and quickly before the British as to keep them constantly harassed, intimidated, cut off from food supplies, and deceived as to the actual size of the American forces.

This policy Washington was able to follow by reason of the delay of the British during 1776 at Lake Champlain because of the necessity of consolidating their positions there as an essential military preliminary to the Hudson valley objectives.

But a critical juncture was reached by 1777. Washington then “came to the hazardous, but judicious resolution”, of freeing himself and his army from their *greatest* enemy, so that they would be prepared for the ensuing campaign, exempt from the fear of a calamity which had at all times endangered the most important military operations.

So the entire army was secretly inoculated, in relays, so that no great number would be ill at any one time, and so that the enemy would not take ad-

vantage of the situation.

Smallpox ceased to be a terror after this and as great an achievement was registered for medicine as typhoid prevention became in a later period of our military history.

Add to Washington's record his perfectly timed, triumphant strategy, and let cavillers against his place in military science cease and desist.

Suitable Occupations for Medical Students Discontinuing Courses

DR. Charles W. Hennington, of Rochester, makes the point—and we thoroughly agree with him—that the medical schools owe it to those students who have to be dropped for one reason or another, even for lack of scholarship, to direct them into other suitable occupations in which whatever training they may have acquired may yet be of value.

This thought was brought to Dr. Hennington by a reading of Lee M. Klinefelter's comprehensive book on vocations allied to medicine, for men (New York, E. P. Dutton and Company, 1938). Dutton has since published a book by the same author (September, 1939) which deals with medical vocations for women.

In the case of pharmacy and nursing, says Dr. Hennington, the time spent in medical schools ought actually to count as part of the time requirement.

In this connection it should be pointed out that our American schools cannot absorb the 350 (approximately) young men and women who have been studying medicine abroad and who cannot get passports from the State Department.

The Problem of Poisoning

IN the year 1937, 898 persons in New York City died of poisoning, according to Dr. Milton Halpern, of the Medical Examiner's office. One may roughly calculate, from this, the probable number of fatal poisonings in the whole country.

One may at least speculate as to the possible number of poisonings not ending fatally. It must be rather vast. That it is not greater than it is must be due largely to the skilful efforts of physicians to combat poisonings. On the other hand, some of the deaths are presumably due to the unsatisfactory state of the treatment of poisoning in some respects.

The problem is obviously a most serious one, to which all agencies, public and private, should address themselves, for much can be done to fortify first lines of defense, which means preparedness at all points where the problem suddenly presents itself. We should ask ourselves whether all the steps have been taken to insure reasonable efficiency in the situations which are daily arising and which will continue to challenge conscientious resourcefulness.

ROLE OF THE RADIOLOGIST

Very often enthusiasm with regard to the benefits of the newer methods of x-ray and radium treatment has obscured the well-known fact that radiation treatment depends upon the use of essentially dangerous elements. In many instances over-radiation has resulted in catastrophe. No one can seriously believe that the end justifies the means if the treatment leaves the patient with his cancer arrested or even destroyed, but with extensive tissue necrosis and serious secondary infection which produce an end state far worse than the original cancer. Enthusiasm for new methods must be tempered with judgment in this as in all types of treatment. As I see the general trend in the treatment of cancer, it appears to be more and more away from the strictly surgical methods, and more toward either combined or purely radiologic methods of treatment. This will require still more judgment and conservatism in the use of these very potent agencies.

—Isaac Gerber, M. D.,
Rhode Island M. J., Jan. '39.

THE MANAGEMENT OF

The Ambulatory Diabetic

WITH A CONSIDERATION OF SOME OF THE COMPLICATIONS

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and

DEXTER S. LEVY, B.A., M.D.

Buffalo, N. Y.

SINCE the advent of the prolonged acting insulins, certain changes have been found necessary in the arrangement of the diabetic's diet. Trial diets which were formerly used in institutions to begin the treatment of the diabetic have long since been discarded, as their use only tended to prolong the time necessary for standardization. When a patient first presents himself for treatment, he is at once placed upon a maintenance diet. With the height, weight, and occupation as primary factors, the caloric requirement is determined. Individuals doing office work or moderate manual labor will require about thirty calories per kilo of their normal body weight in twenty-four hours. Those doing more strenuous labor are given slightly more. At all times, it is important that the diabetic patient should be kept approximately ten pounds under his normal standard weight and the calories allotted are based on this presumption. Occasionally, it is necessary to increase the caloric allotment if the diet is found to be insufficient by the patient, which obviates dietary indiscretions upon his part. The protein allotted in the diet is one gram (or slightly more) per kilogram of the patient's normal body weight in twenty-four hours. The fat content should be kept between sixty and one hundred and ten grams per day. Obese patients receive the lower amount,

while those normal or underweight receive the higher. The remaining calories are supplied by the carbohydrates (see *Diets on following*

pages).

HAVING determined the caloric requirements and contents of the diet in each individual case, the problem then becomes one of determining the type of insulin most desirable in each instance. With the unmodified insulin, which has its greatest effect within four hours, the total calories and essential food constituents may be divided into three equal meals and insulin adjusted accordingly. Crystalline insulin produces its maximum effect from eight to twelve hours after administration, while protamine zinc insulin has a period of activity lasting from twenty-four to forty-eight hours. In this group of long acting insulins, it has been found advisable to divide the caloric intake in the proportions of one-fifth for breakfast, two-fifths for dinner and two-fifths for supper, since in the majority of instances the insulins are administered in the morning and produce their maximum effect late in the day. In order further to supply the greatest amount of available carbohydrate in the latter part of the day, the protein content of the diet (which is fifty-eight per cent CHO) is subdivided into one-sixth for breakfast, one-third for dinner, one-half for supper. It is also important to realize that the simple carbohydrates derived from fruits are

From the Diabetic Service of the Edward J. Meyer Memorial Hospital and the University of Buffalo Medical School.

very rapidly absorbed and usually within one hour are available in the blood stream. The absorption of this form of carbohydrate, however, may be delayed when combined with some form of fat (bananas and cream). It is frequently necessary and advisable to allow the patient a small amount of food, taken from his diet, to be utilized late in the evening, since at this time the greatest effect of the long acting insulins takes place and frequently obviates midnight reactions.

HAVING placed the patient on his maintenance diet, he is instructed to begin saving samples of urine on the second day. Our plan has been to collect a four sample test at the onset of treatment. All of the urine passed between breakfast and dinner (B-D) constitutes sample I; that between dinner and supper (D-S) sample II; between supper and midnight (S-M) sample III; and midnight to breakfast (M-B) sample IV. From

these samples we determine the total amount of sugar excreted with this diet in twenty-four hours and, likewise, the amount excreted as a result of each meal. Should the patient excrete less than ten grams of urinary sugar per day, and the blood sugar be within normal limits, then it may be advisable to reduce the diet by that amount. However, if more than ten grams are eliminated, we deem it advisable to start the

patient on insulin. It has been our practice to start the treatment of new patients with regular insulin and later convert it to the longer acting insulins. One unit of regular insulin will take care of approximately two grams of sugar as excreted in the urine; therefore, a patient on a maintenance diet excret-

ing fifty grams of sugar in a twenty-four hour period requires about twenty-five units of insulin. To subdivide this amount for three meals, the fractional urinary test previously mentioned is helpful, since then the approximate amount excreted per meal can be ascertained. The largest dose is usually required in the morning. We use crystalline insulin only in those cases where there is a sensitivity to the protamine insulin, as the crystalline insulin has no special advantages over the regular type. It usually requires a larger dose of the crystalline material but does, to some degree, reduce the number of injections per day.

Protamine insulin requires a minimum of dosage and, in most instances, one injection per day suffices. In order to convert a patient from regular to protamine insulin, the amount of the protamine given approximates two-thirds of the daily units of regular insulin previously used and is given in the morning along with the usual morning dose of regular insulin. One-half of the usual dose of regular insulin is given at noon and none

SAMPLE DIET I

DIET INSTRUCTIONS:

Breakfast

	CHO.	P.	F.
1 orange or other 9% fruit	9	1	
1 egg or 3 slices bacon		6	6
$\frac{1}{2}$ cup milk	5	3	4
$\frac{1}{2}$ square butter			4
$\frac{1}{2}$ cup cereal	10	2	1
1 slice bread	16	3	1

Dinner

$\frac{1}{2}$ cup 3% vegetable—Lettuce	3	2	
1 serving 18% dessert— $\frac{1}{2}$ cup Baked custard	18	3	
2 oz. lean meat or fish; or 2 eggs		12	8
1 square butter			8
2 slices bread	32	5	2

Supper

$\frac{1}{2}$ cup 6% vegetable—Peas	6	3	
$\frac{1}{2}$ cup 18% vegetable—Potatoes	18	3	
medium serving lean meat		18	12
1 cup milk		10	6
1 square butter			8
2 slices bread	32	6	2

Carbohydrates	Protein	Fats	Calories
160	70	65	1500

is given at night. The following day, only the protamine insulin alone is given in the morning and none at noon or night. From here on the amount of the protamine insulin is gradually increased until the patient is sugar free in the urine and has a blood sugar within normal limits. Occasionally, we have found it necessary to supplement the protamine insulin with a small dose of regular insulin before some of the meals as indicated by the presence of sugar in one of the four urinary samples. This is frequently obviated by changing the time of protamine insulin administration to the period when sugar appears in the urine.

In each instance, patients are instructed in the examination of urine for sugar and to keep a record of this for presentation upon the next visit. They need also to be instructed how to administer the insulin to themselves. The importance of using a clean, twenty-four gauge needle to avoid loss of insulin which may become attached to a rusted bore is explained; also the importance of shaking the protamine material immediately before withdrawing the contents should be emphasized. Likewise, the physician must be alert to the ordering of the proper strength of the material to facilitate injection. Since in many instances, the urinary sugar is not present until the blood sugar reaches a level of 180 mg. per 100 c.c., it is frequently un-

necessary in office practice to do repeated blood sugars until the patient is urinary sugar free. When this state occurs, however, the blood sugar is the most important guide. In following a standardized diabetic patient, he should report for check-up every month or two, dependent upon the severity of the case, and bring with him a record of urinary tests taken at intervals and at different times of the day.

HYPOGLYCEMIA with symptoms of shock, under regular insulin, may occur about four hours following its last injection and is treated by the oral administration of monosaccharide in the form of fruit juice, karo syrup, or dextrose tablets. Patients taking large doses of insulin should be instructed to carry these tablets with them and to take them as soon as symptoms are observed. Occasionally, a patient will have a hypoglycemia followed shortly by the presence of sugar in the urine, indicating that the

last insulin injection has entered the blood stream before the carbohydrates of the meal have become available. In such instances, the dose of insulin should be given earlier in relation to that meal, and if the reverse condition occurs, opposite treatment is indicated. In severe hypoglycemia, where the patient may become unconscious, immediate fifty per cent dextrose (50 cc. or more) should be administered intravenously preceded by

SAMPLE DIET II

DIET INSTRUCTIONS:

Breakfast

	CHO.	P.	F.
1 orange or other 9% fruit	9	1	
1/2 cup milk	5	3	4
1 square butter			5
1 cup cereal	20	3	1
1 slice bread	16	3	1
	50	10	12

Dinner

1/2 cup 3% vegetable—String Beans	3	2	
1 serving 18% dessert—2 halves canned peaches	18	3	
small serving lean meat or fish; or 1 1/2 oz. cheese or 2 eggs		12	8
1 cup milk	10	6	8
2 1/2 squares butter			21
2 slices bread	32	5	2
	63	28	33

Supper

1/4 cup 3% vegetable—Cabbage	6	2	
1/4 cup 18% vegetable—Potatoes	13	3	
1 serving 18% dessert—1 Banana (medium)	18	3	
medium serving lean meat		18	12
1/2 cup milk	5	3	4
2 1/2 squares butter			21
1 slice bread	16	3	1
	63	32	38

Carbohydrates	Protein	Fats	Calories
175	70	90	1770

five to ten minims of 1:1000 adrenalin hypodermically. With protamine insulin the blood sugar levels are frequently much lower than is observed with regular insulin before the clinical appearance of shock, and these symptoms are often less severe but of longer duration. The treatment is essentially the same, but additional food may be given at this time and the original dose of insulin should obviously be reduced

DIABETIC acidosis is best treated in an institution and if attempted at home should be done with the constant attendance of a graduate nurse. The patient should be placed in a warm bed using blankets instead of sheets and surrounded with hot-water bottles. Urines should be obtained by means of catheterization, the bladder being emptied completely and the catheter fixed indwelling. The sample thus obtained should be examined not only for sugar but also for the ketone bodies. Likewise blood sugar and carbon dioxide combining power should be obtained immediately. Having confirmed diagnosis, the patient is given forty (40) units of regular insulin intravenously and thirty (30) units subcutaneously. The initial amount of insulin given is neither fixed nor important. At this time the patient should receive hypodermoclysis of 1000 cc. of five per cent dextrose solution in normal saline.

Stimulants, if indicated, may be given. The bladder should be emptied hourly and the urine checked for the presence of sugar and ketones. At the onset, the lower bowel should be cleaned out by means of a salt water enema. Insulin is continued every fifteen to thirty minutes in a dosage of twenty to thirty units,

dependent upon the severity of the patient's condition, and supplemented by hypodermoclysis of 100 cc. of five per cent dextrose in saline, administered every two to three hours. If vomiting is present, a gastric lavage should be attempted, only when the patient has become conscious. As the patient improves, and the urine becomes free of ketone bodies and sugar, the above mentioned routine is discontinued and the patient is placed on fluids by mouth in quantities as tolerated and composed of fruit juices, broth, and tea or coffee, covered with insulin in the amount required. Soft food is substituted as

the patient is able to tolerate it. Urinalysis and blood chemistry then become the guides for the continued dose of insulin.

333 LINWOOD AVENUE.

SAMPLE DIET III

DIET INSTRUCTIONS:

Breakfast

	CHO.	P.	F.
1 orange or other 9% fruit	9	1	6
1 egg or 3 slices bacon		6	6
1/2 cup milk	5	3	4
2 squares butter			17
1/2 cup cereal	10	2	1
2 slices bread	32	5	2
	56	17	30

Dinner

1/2 cup 3% vegetable—Tomatoes	3	2	
1/2 cup 6% vegetable—Carrots	6	2	
1/2 cup 18% vegetable—Potatoes	18	3	
1 serving 18% dessert—1/2 cup Jello	18	3	
1 oz. meat or cheese; or 1 egg		8	6
2 squares butter			17
2 slices bread	32	5	2
	77	23	25

Supper

1/2 cup 3% vegetable—Spinach	3	2	
1/2 cup 6% vegetable—Beans	6	2	
1/2 cup 18% vegetable—Lima Beans	18	3	
1 serving 18% dessert—1/2 cup Cornstarch Pudding	18	3	
medium serving lean meat		18	12
1 cup milk	10	6	8
2 squares butter			17
2 slices bread	32	5	2
Carbohydrates	220	Protein	80
		Fats	95
		Calories	2055

For the latest advances in medical literature,—see pages 528 and 542.

Pediatric Advances

OF THE LAST FEW YEARS

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ANY discussion of pediatric advances of recent years can best be taken up in chronological order. Therefore, the newborn period is our first consideration.

Dr. Ethel Dunham, of the Children's Bureau in Washington, has told us most admirably of the problems involved in the neonatal period. She has immediately made the point that this designation should include the whole first month of life instead of the first two weeks as has been the custom. Many important things occur to infants after discharge from the hospital which are clearly related to events which have occurred in the hospital. This is completely missed in the present method of consideration. Secondly, Dr. Dunham's figures have shown a sharp falling off in the general mortality of this period during the past decade, but that much greater progress should have been made and can now be made. With the standardization of pediatric procedures in the care of other than normal infants, everything indicates that improvement will have to come from better obstetrics. No one is more willing to concede this than our best obstetricians. Of the total mortality in the neonatal period, something like one half was found in the premature group alone. (At present, any infant who weighs 2500 grams or less and is 47 cm. long or less is to be considered as premature.) Of the full-term group, the greatest mortality comes from asphyxia, intracranial injury and infections.

From the Department of Pediatrics, Long Island College of Medicine and Long Island College Hospital.

THERE has been great interest in the problem of asphyxia and much progress in its prevention can be expected. This, again, is largely an obstetrical problem with indication that the reduction, or more careful use, of analgesics will undoubtedly influence this in a favorable way. Asphyxiated infants do fully as well on oxygen therapy as they do on carbogen, regardless of the emphatically opposed views of the physiologist, Yandell Henderson. The old principles, proper external heat, careful removal of upper respiratory discharges and frequent changes of position still are found most efficacious. The use of the Drinker respirator and E. J. respirator is less frequent and must be limited to those who are very expert.

AS TO intracranial hemorrhage, the incidence and the mortality is directly and immediately reducible by better teaching of obstetrics to practitioners and medical students. This, or steps to make available free or low-priced consultation for the remainder of practitioners, will do much to reduce this serious problem.

THE spread of infections in the nurseries has been greatly reduced by the fine campaign of the Department of Health. Its regulations in the conduct of a maternity nursery may seem drastic but will have great effect in reducing the spread of impetigo, respiratory diseases and, much more important, the dread diarrhea and intoxication of the newborn.

For those unfamiliar, certain of the high spots of these regulations are that they ask for rooms independent of the nursery for the examination and treatment of the infants by the doctors. Masks, gowns, and gloves are desired for the doctors and nurses. At least a six-inch separation of babies is required; one nurse for about each twelve, or less, babies; complete isolation service independent of the clean nursery for all infected or suspicious babies; careful formula room technique, so that used bottles from infected or potentially infected infants do not contaminate other units, should be provided. Institution of and exercise of these principles has greatly reduced our morbidity in the nurseries of the Long Island College Hospital. We have but recently completed the physical changes necessary to bring this about in our nursery and soon hope to extend it to our formula room.

A TECHNICAL advance which applies to older infants as well as to the newborn is the standardization of the treatment of severe diarrhea with intoxication. The most important basic principle is absolute starvation. Not even water is given by mouth for a period of 24 hours and often longer. The duration of the starvation period has been extended to as long as 4-5 days when bowel movements do not improve. While this is going on the infants receive hypodermoclyses of 2½ per cent glucose in normal saline and infusions of 5 per cent (isotonic) glucose in saline. Even more important in severe cases is daily or more frequent transfusion of whole blood or of human serum. The serum transfusions are indicated, of course, when the blood is too greatly concentrated. The total amount of fluid administered should almost never exceed 150-200 cc. per kg. in 24 hours. If fluid is given in excess of this amount, it simply is lost by kidney (less so by bowel even in the presence of diarrhea) and takes with it valuable inorganic ions, or causes edema and water intoxication. All of this serves to defeat the purposes of fluid administration.

Usually 24 to 48 hours of starvation greatly improves the stools, whereupon small amounts of distilled water and half strength protein milk are cautious-

ly added somewhat after the manner of the Downs technique following operation for pyloric stenosis. If all goes well, the patient soon receives full strength protein milk in usual quantities. Protein milk is still the therapeutic milk of choice for the treatment of diarrhea in all important pediatric centers. As the patient improves, carbohydrate is added to the protein milk; then lactic acid milk is substituted and carbohydrate is added to it. Finally the child resumes the ordinary feeding regimen which the physician considers proper for the individual infant.

The New York Hospital had an epidemic in the newborn group with 14 extreme cases of diarrhea with intoxication. One of this group was a patient of mine whom we had just guided through a most severe attack of erythroblastosis foetalis. All the others were just as sick but every one of these 14 patients recovered, a truly remarkable record, whether entirely due to the treatment or not. My patient had sixteen entirely fluid stools on the day of onset. It is, of course, obvious that we have and will encounter infections of such great virulence that neither this regimen nor any other will succeed. Nevertheless, this is a remarkable record and clearly means that these principles of treatment are sound and should be known and appreciated by every doctor responsible for infants. The case histories and details of management are contained in an article in the *American Journal of the Diseases of Children* by Dr. Charles Baker, who was then Resident in Pediatrics at the New York Hospital.

Prematures

SINCE half of the deaths in the newborn group occur among premature infants, it is of paramount importance to know not only the causes of death but which of them can be eliminated. Here, again, Dr. Dunham has done an outstanding service. She has personally visited and surveyed the facilities for the care of prematures in all the hospitals in the United States. This appalling amount of work showed what every one might anticipate, that the mortality was terrific, 60 to 80 per cent at the worst, but at best as low as 12

to 14 per cent in the centers where professional attendance and physical care were at their best. Dr. Dunham says that of all the institutions visited, only six in the United States accurately knew what their results were. All of the others relied on general impressions and in most of these institutions these impressions were that the results were good. However, subsequent studies showed that this, unfortunately, was not true. Dr. Dunham's splendid articles on the care of premature infants can be found in the *American Journal of Public Health*, Vol. 29, Aug. 1939. They are decidedly worth the study of every one concerned with the care of premature infants.

An outstanding cause of mortality in prematures is poor obstetrics. This point was clearly made by Professor Alfred C. Beck in his discussion of an address made by Dr. Dunham to the Brooklyn Academy of Pediatrics. To go back to origins, Dr. Beck feels that medical students should spend more time in learning obstetrics, for he thinks that a well trained obstetrician should turn over to a pediatrician a premature baby injured as little as possible, exposed as little as possible and delayed in onset of delivery as long as possible within the limits of its own and its mother's interest. Given such a properly delivered premature infant, any informed doctor would desire facilities such as exist at the Boston Lying-In Hospital or at New York Hospital, where there are completely air-conditioned rooms, temperature ranges from 80 to 90 degrees or higher if indicated, humidities of 40 per cent to 50 per cent or greater when desired, and excellent nursing and isolation technic. Of all these the nursing care is the most important. These requirements are beyond the reach of all but well-endowed institutions, but there is now available a most excellent air-conditioned incubator which can be purchased at a very reasonable figure. This was designed by Dr. Charles Chapple of the Department of Pediatrics at the University of Pennsylvania. This incubator is completely air-conditioned and provides excellent isolation for the patient and has had a thorough and favorable clinical try-out in good institutions. I am pleased that we now have

three of these incubators at the Long Island College Hospital, and we are enthusiastic about them. The infants are completely enclosed and need never be removed from this box except perhaps for x-ray, blood transfusion and other technical procedures. Feeding, weighing, bathing, changing, examination or any other service is easily carried on through the armholes. This provides absolute protection from infection. The only possible contaminant is the nurses' and doctors' hands and this need not and does not happen. These incubators have stood the test when used in the open medical wards of the Pennsylvania Children's Hospital where the colony count of hemolytic streptococci has been demonstrated to be as high as 140 for the number of cubic feet occupied by the box. Incidentally, the colony count in an average hospital corridor is about 40 to 50 and in outside air only 15 to 20 in the space occupied by this incubator. It can readily be appreciated how marvelous an advance this is for administrators, for the incubators can be moved to whatever location is desired, making elaborate and sequestered quarters for prematures no longer necessary. Those born in the hospital may be kept where they belong, in the Newborn Nursery. The prematures born on the outside, who are much more difficult of management, may be placed anywhere desired on the medical wards, without waste of space and equipment during the time when there is no demand.

As to mechanical features: The air is taken from the outside, is filtered, humidified and heated. The air flow is regular and is under complete control. The box is under slight negative pressure. Any heat or humidity selected for this individual patient may be had without affecting any one else. Naturally, such selectivity cannot be attained in air-conditioned rooms unless special additional incubators are used. There is an indicator which proves that there is airflow. The nurses make regular two-hourly recordings of the state of this indicator at the same time as they record the incubator temperature, humidity, etc. Even if the air-conditioning apparatus failed, there is sufficient oxygen to maintain the baby in the closed box for four

hours. With the two-hourly check the failure would be noticed long before this, and corrected.

The possibilities of this box for treatment by oxygen, carbogen, helium or other gaseous mixtures are limitless. And all of this is decidedly within the means of any institution which presumes to be responsible for premature infants. The earliest models of these incubators cost \$500, but the manufacturer has reduced the cost so that it is nearer \$400 at the present time. Even the best of the very unsatisfactory non-air-conditioned incubators now available cost this much or more. It is my sincere hope and belief that this incubator will become recognized as a fixture in the best care of premature infants.

I WISH to communicate a point in the treatment of one of the difficult and not so rare diseases of the newborn period, erythroblastosis foetalis. It will be recalled that this is a congenital disturbance of the hematopoietic system of unknown cause. It produces icterus gravis, terrific anemia, and will kill a high percentage of its victims if not recognized and properly treated. It can be recognized by carefully examining the blood smears of infants who present severe jaundice and anemia for increased numbers of nucleated red cells. In my patient previously referred to, there were 20 per cent of nucleated red cells and hemoglobin of 42 per cent. At his age, ten days, his hemoglobin should have been about 115 per cent. The proper treatment was, and is, repeated blood transfusion—10 to 15 cc. per lb. During the worst stages, as many as two transfusions a day were required. The clinical response was good, but the gains were not maintained. Even after 14 transfusions, a satisfactory hemoglobin level was maintained for but two or three days. Dr. Carl Smith, hematologist to Cornell Pediatric Department, suggested intramuscular injections of liver extract every other day, beginning at $\frac{1}{4}$ cc., increasing to $\frac{1}{2}$, and 1 cc. doses. This was immediately and completely successful. The infant is now 16 months old and is in perfect health. According to the literature there is no reason to expect recurrence of difficulty in the future.

EXCEPT for a brilliant result with the use of sulfanilamide, 1 grain per lb. per 24 hours, for the treatment of the very dangerous gonorrhoeal ophthalmia, I have encountered no other new remedies worth mentioning in this field of the newborn infant.

Infancy

IN THE field of diseases of infancy, the outstanding development has been in the management of intestinal intoxication, which we discussed under conditions of the newborn. With older infants, the milder diarrheas seem to respond well to simple reduction of the diet to boiled skimmed milk and cereal mixtures and perhaps the use of a commercial pectin. I have used kapectate in doses of 1 to 2 teaspoonfuls every 3 or 4 hours with good success. I believe that it is as effective or more effective than mixtures of milk of bismuth and paregoric. In diarrhea of any consequence, there seems to be no doubt that lactic acid milk and protein milk formulae have been most successful. This uniformity of procedure is no doubt due to the brilliant studies and work of Dr. McKim Marriott of St. Louis.

FOR the management of normal and abnormal infants we are besieged with literature on iron and vitamins. As to iron metabolism, we feel, from a practical standpoint, that Feosol or elixir Feosol is one of the most satisfactory of all preparations. It causes much less digestive distress than iron and ammonium citrate, even among premature infants. Incidentally, all premature infants, except those with gastro-intestinal difficulties, should receive this or some other iron preparation very early as a matter of routine.

By far the most interesting wrinkle in the field of iron metabolism was reported by Hahn of the University of Rochester at the meeting of the American Academy of Pediatrics. Dr. Hahn overcame a great obstacle to the proper study of iron exchange in that he marked the iron which he wished to follow through the processes of metabolism by using a "radio-active" iron. Thereby, this could be identified and separated from iron from other sources at all

times. One of the many interesting things he demonstrated was that the need of normal persons for iron is much less than indicated by the time-honored quota of 5-15 mg. Hahn states that but 0.5 mg. every day is necessary. This is true because some 85 per cent of iron is retained and but 15 per cent excreted by way of the colon. By his method of marking, he was able to show also that the life of red blood cells is very much longer than formerly believed, in fact as long as 115 to 120 days.

Vitamins

IN THE field of vitamins there are certain important points worth transmitting or emphasizing. First, that the biophotometer as it is now used in attempts to recognize vitamin A deficiencies is not a satisfactory diagnostic aid, Dr. Jeans of Iowa notwithstanding. There is every reason to believe that the present difficulties, which are largely technical, will be solved by promising current research. At present, the finding of keratinized epithelium in excessive amounts in the urine and other secretions in conjunction with the usual clinical signs is a most valuable aid to diagnosis. Halibut liver oil is an excellent source of vitamin A both for prevention and for cure.

There is no doubt that vitamin B₁—the antineuritic portion of the B complex—is rapidly finding wide clinical application. It has been proven that there is practically no storage of this vitamin, so that it is particularly true that sick or depleted infants need replenishment constantly and urgently. The synthetic preparation, thiamin chloride, is effective and easy of administration. In older infants and children, the signs of vitamin B₁ deficiency are so ill-defined that therapeutic test is so far the best. There is great promise that reliable laboratory estimation of vitamin B deficiency will soon be available. Certain children who have no detectable or definable cause for anorexia, including psychological considerations, will improve greatly after the administration of thiamin chloride, 2 tablets a day (400 international units). In my experience, the effect is noticeable within two weeks or less or there will be no favorable effect.

THIRDLY, as to vitamin C, there has been outstanding work by Professors Wollbach of Harvard and Park of Johns Hopkins on the pathology of scurvy. They demonstrated beautiful preparations of tissues sectioned and stained by their new methods. They clearly showed that vitamin C deficiency operated most unfavorably against the mesoblastic or supporting tissues. They particularly worked on the tissues which supported the teeth. The unfavorable effects of infection or other depleting processes on the vitamin C content of the body need no longer wait on clinical signs of scurvy for recognition. The estimation of vitamin C in blood (ascorbic acid level) is commonplace in the wards today—a level of 1.0 is considered ideal. If there is reduction below 0.7, there is subclinical and perhaps clinical scurvy, which is certainly indication for active treatment. It is astonishing how low these figures fall after otitis media, pneumonia, and the like, and how favorably the clinical course of the patient is affected by elevation of the vitamin C level to normal. Of recent interest, likewise, is the demonstrated fact that synthetic vitamin C, while almost always effective in restoring or maintaining proper level of vitamin C in the body, must in certain susceptible individuals be supplemented by vitamin P, the vitamin discovered by György. This vitamin is most prominently found in lemon juice and certain other natural citrus fruits. This is, of course, of clinical importance in the management of intractable cases of scurvy, particularly those where full doses of ascorbic acid have been used.

Fourth, vitamin D. There are three points of progress: first, there is an excellent and reliable method for measuring vitamin D in the blood; second, the level of phosphatase units in the blood is an early and excellent indication of the presence or absence of active rickets. Normally there are 10 or less phosphatase units. In active rickets there may be from 10 to 40 or more phosphatase units. The chemical method is reliable, not complicated, and has been improved by a method of Drs. Scherer and Nightingale working in the New York City Health Department Laboratory and the Long Island College of Medicine Pediatric Division at Kings

County Hospital. Drisdol, a soluble preparation, is a very effective prophylactic agent against rickets. A well supervised and numerous series of infants were given this preparation through their first year in the Outpatient Pediatric Department of Yale University. Professor Powers told me that the results were excellent. I use this preparation when viosterol cod liver oil—2 to 3 teaspoonfuls a day—is not well tolerated. I have obtained excellent clinical results for 15 years with viosterol cod liver oil and expect to continue to use it as a routine.

IN THE field of infectious diseases the developments of greatest interest are in the field of diphtheria prevention and in the epidemiology of poliomyelitis.

On the occasion of the 25th anniversary of the Schick test, when Dr. Schick received his well-deserved medal from the New York Academy of Medicine, Dr. Fitzgerald, the director of the Connaught Laboratories of the Dominion of Canada, spoke most brilliantly. He proved without any question that at least two and, best, three injections of diphtheria toxoid should be given adequately to protect children against diphtheria and to maintain that prophylaxis for long periods. There is no doubt that the single dose of alum toxoid is not enough. Furthermore, it is possible to have a negative Schick test and still not have sufficient antibody titer to protect one against diphtheria. The second and the third doses of toxoid will accomplish this without harm and in a more lasting way. In an Ontario city, where all of the children have been immunized by three injections, there has not only been no mortality but no case of diphtheria since 1932. I have personally given two and usually three doses of toxoid to all infants under my care since 1927, in accordance with the practice of Dr. O. M. Schloss, begun so long ago as that. It is a decided satisfaction to have overwhelming statistical and personal data from such an authority as Dr. Fitzgerald, Dominion Health Officer.

IN POLIOMYELITIS, the most investigated field except cancer, there has

been clarification of a most important point in epidemiology. Dr. Alfred Vignec, who was Resident Pediatrician at Long Island College Hospital in 1936-1937, worked at Yale in virus research with Dr. James Trask. He with Dr. Trask successfully originated and applied methods for isolating poliomyelitis virus from stools and transmitted it to experimental animals. The first material came from the stools of normal contacts in a Connecticut home where one child was the victim of poliomyelitis. Recently, by the same methods and in the same laboratory, the virus has been isolated and transmitted to monkeys from stool specimens sent from England, where a poliomyelitis epidemic was then in progress. That these discoveries will have far-reaching consequences is obvious. Not the least of these is the reduction of the emphasis on the respiratory tract as the portal of entry and respiratory secretion as the chief means of transmission of the disease.

I wish to make only sketchy reference to the administration of Sauer's vaccine for prevention of whooping cough. The case for it is decidedly not proven, and in informal polls among the members of the American Academy of Pediatrics, the majority were giving it on request, and very few of the leaders were giving it as a routine. We heard several references to the sceptical remark of Professor John Lovett Morse after Dr. Sauer's enthusiastic presentation—"Will he be willing to repeat that presentation in five years?" No matter whether this vaccine is the answer or not, it has given an invaluable stimulus to work in a field far too long neglected.

Tetanus toxoid is effective but its effectiveness has not been proven to be of sufficiently long duration. Interesting work in this field is going on and the literature should be scanned for new reports.

IN THE field of the general practice of pediatrics, the various uses of sulfanilamide and sulfapyridine and the use of rabbit serum for type specific pneumonias are the subjects of greatest interest. Like every one else, we have had outstanding successes with sulfanilamide and sulfapyridine, particularly in strep-

tococcal infections and in meningococcal meningitis. So far as we know, we were the first to use sulfanilamide intrathecally in the treatment of meningitis. To date we use sulfanilamide in conjunction with antimeningococcal serum, although so fine an observer as Dr. Edwin Place feels that the results with sulfanilamide alone are the best ever attained. We have found the typing of streptococci of great value in the prediction of results. The Hoagland Laboratory and certain others in Brooklyn are doing this typing at the present time. The simple and accurate estimation of the concentration of sulfanilamide in blood has been most helpful as a guide to treatment. We are under the impression, not yet supported by evidence, that lower doses than 1 gr. per pound, and concentrations less than 10 mg. per cent, may be as effective in many circumstances as the much higher doses.

IN CERTAIN of the type specific pneumonias there is no question of the effectiveness of horse or rabbit serum. Because of the low mortality in children the intravenous use should be limited to occasions when there is a positive blood culture; C. N. S. symptoms or overwhelming toxemia; rapid advance of pulmonary evidence with massive fluid collection. Dr. Lambert Krahulik, of our pediatric department, has reported a splendid success with the use of type specific serum in pneumonia, given by the intramuscular route. This study reported the combined material of the pediatric departments at Long Island Col-

lege Hospital and the College Division at Kings County Hospital. Since this method is absolutely harmless and is as effective as serum can be, there is no doubt that this represents an important practical advance in the treatment of pneumonia.

IN THE field of metabolic diseases, there is the greatest confusion, especially in endocrinology. No new points which one may safely carry into practice are reported except as relates to the use of protamine insulin in juvenile diabetes mellitus. Reports from the literature were at first favorable. No one would question the desirability of reducing insulin from multiple doses to 1 or 2 a day. However, hypoglycemic attacks are numerous, insidious and dangerous, particularly in those with severe diabetes who require large doses of insulin. In my opinion, those who receive as little as 40 units or less are the subjects most likely to have a favorable reaction to protamine insulin. I have observed three severe diabetics, under perfect conditions in the Metabolism Ward at the New York Hospital, who did exceedingly badly on protamine insulin. It had to be abandoned after painstaking and long periods of observation.

I HOPE that this birdseye-view of the advances in the field of pediatrics will make some practical points as well as serve to prove that a great many of the most important contributions in medicine are being made in pediatrics.
85 PIERREPONT STREET.

BLOOD PLATELETS IN RELATION TO MENSTRUATION

The average number of blood platelets in 13 normal women observed during a total of 82 menstrual cycles varied in a regular manner in relation to the menstrual cycle. This change was characterized by a slow progressive decrease during the 14 days prior to menstruation and a rapid increase soon after the onset of the menses. In individual cases there was usually either a slow progressive premenstrual decrease or a rapid decrease immediately before menstruation. In a few instances there was little or no cyclic change in the platelet count and rarely a premenstrual increase occurred.

—Frederick J. Pohl, M. D.
Am. J. M. Sc., Jan. '39.

Intractable Abdominal Pain

ASSOCIATED WITH BACKACHE

OTHO C. HUDSON, M.D., F.A.C.S.

Hempstead, N. Y.

IN 1924 von Gaza published an article on chronic abdominal pain in which he reported resection of the rami communicanti and posterior root ganglion with relief. In 1928 Archibald reported three cases done, two by Dr. Scrimger and one by himself, with relief. In 1929 Dr. Scrimger reported at the New York Academy of Medicine the follow-up on his two previous cases and added two additional ones.

The treatment instituted by the operators consisted of interruption of the ganglionated sympathetic cord connections to the spinal nerves and spinal cord.

They proved by paravertebral sympathetic novocain blocks that relief of chronic pain of the abdominal wall could be produced. Their conclusions can be verified.

We have become interested in these patients because of their complaint of backache in addition to the chronic abdominal pain.

The theory of the cause of the pain and etiology is not yet fully understood.

THE history of the patients is of a chronic abdominal pain of many years duration, localized in the right or left lower quadrant. Pain is of burning, boring, or aching nature with attacks of sharp cutting pain. Pain is more on one side, but frequently both sides are equally painful. Pain is felt in flank and radiates to the lower quadrant. Pain is aggravated by activity of any kind. Pain awakens patient at night and he

gets relief by sitting up. All complain of fullness of abdomen, eructation, nausea at frequent intervals, without relation to food, occasional vomiting, retching and feeling of ribs being blown out. Pain varies in intensity from time to time during the day, but always occurs in the course of the nerves involved. Back pain occurs with the abdominal pain in the costovertebral angle, but is overshadowed by the intensity of the abdominal pain.

These patients do not appear frequently. They should be sought for in (1) all urological cases with negative examinations, (2) all general surgical cases not relieved by frequent surgical operations or in which no pathology is found, (3) and in all cases classified as neurotics or neurasthenics. Almost all patients seen have already become narcotic addicts from the duration and intensity of the pain. Every one has had every organ removed from the abdomen that could be excised and many urological procedures done with negative results. All have had repeated x-ray examinations with no positive findings. The patient is emotionally unstable and shows marked vasomotor instability.

EXAMINATION reveals an adult in apparently excellent health. Patients lie with the thigh flexed and the spine in marked flexion. They will not straighten the thigh or lie flat because it increases their pain. They beg not to be touched during the examination. On standing the positive findings are that they do not put weight on the leg on the side of the pain and the spine is held in flexion. Motion is free to the point that pain is produced. There are

no constant findings in relation to the feet, ankles, knees, hips and pelvis. There is intense hyperesthesia to pin-pricking and pinching of the skin throughout the cutaneous distribution of the involved nerves beginning posteriorly and running down around the chest to the midline in front. There is no tenderness along the sciatic nerves. There is tenderness over the entire hyperesthetic area. Acute pain is felt on pressure upward over the eleventh or twelfth ribs and over the transverse processes of the eleventh or twelfth dorsal vertebrae and the first lumbar vertebra. Pressure in the paravertebral area reproduces attacks of pain of similar nature to that complained of, and causes it to radiate anteriorly. Pressure posteriorly and in the flank will cause the patient to retch, become nauseated, and frequently vomit. Dermographia is present. Patient is emotionally upset and easily cries. X-ray examinations of the spine have revealed no positive findings. Spinal taps have revealed no positive findings. The neurologist (Dr. C. M. Meeks) has made a diagnosis of radiculitis in each case. The usual area involved is the dorsal segments of the ninth, tenth, eleventh and twelfth vertebrae on one side and the eleventh and twelfth on both sides if bilateral. All patients have had a recent abdominal exploration to rule out any pathology.

THE treatment of these patients is not simple. Some may be cured, many relieved, and others will not be improved. The exact therapeutic attack is not yet well defined.

All cases have had a paravertebral sympathetic novocain block with five cc. of one per cent novocain preceded by two cc. of two-per cent novocain solution with relief of their pain on the table. The relief lasted from two and one-half hours to fourteen days and was repeated. Five cc. of ninety-five per

cent alcohol was injected following the novocain with complete relief in some cases that has continued for at least one year; in others the original pain has been relieved, but ten to twenty-one days later an alcoholic neuritis developed. This neuritis was characterized by intense burning or rawness of the skin, especially in the anterior branches of the anterior division of the intercostal nerves. The neuritis has not responded to intra-oral medication in any form, but has been temporarily relieved by paravertebral injections of novocain. This complication usually disappears in four to eight weeks.

Von Gaza's operation has been done in one case with relief of all pain, except some in the back where a late abscess developed. Later we expect to do more of these operations and also to resect the lower dorsal sympathetic ganglia.

WE WISH to call attention to a condition not given sufficient recognition. This is observable as an intractable abdominal pain with a backache in a highly unstable individual. After removal of all possible intra-abdominal or other lesions, when pain persists an intractable intercostal neuralgia may be the diagnosis. Injection of novocain as a therapeutic test is advised paravertebrally. Later repeated injections, novocain alone, novocain followed by alcohol, or resection of the sympathetic ganglion, are suggested as promoting a cure.

We hope to stimulate other men to experiment with this type of patient to arrive at a suitable therapeutic regimen for them. This experimentation is necessary, for at present these people are thrown aside as neurotics, fakers, or as dope addicts. They do not receive the sympathy and encouragement their pitiable state demands.

PROFESSIONAL BUILDING.

ABORTIONS

About twenty per cent of all pregnancies abort. Taussig states that 700,000 abortions occur annually in this country.

—A. J. Mausey, M. D.,
Mississippi Valley M. J., Jan. '39.

SPECIAL ARTICLE

CLINICOPATHOLOGIC CON- FERENCES OF THE LONG ISLAND COLLEGE OF MEDICINE

Case VI—Diseases which seem commonplace have unusual and interesting complications. In the following instance the clinical diagnosis of the underlying condition was made with assurance, but a rare complication was overlooked, and made the principal surprise finding at autopsy.

Clinicopathologic Conference held at the Hoagland Laboratory, December 14, 1938. Clinical presentation by Dr. Tasker Howard, Professor of Medicine. Pathological report by Dr. John M. Pearce, Assistant Professor of Pathology. Reported by Dr. Robert Dickes.

Clinical Report

ON October 24, 1938, a white male clerk of 39 was admitted to the Long Island College Hospital for the second time within the year because of recurrence of the classical symptoms of congestive heart failure: orthopnea, exertional dyspnea, cough and ankle edema. The history of heart trouble went back ten years to an occasion when sudden palpitation and dyspnea occurred while at work. A physician called to give emergency treatment told the patient that he had rheumatic heart disease. Since this episode, he had remained under medical observation. For nearly the entire period he had taken digitalis; on the one occasion when the drug had been discontinued, there had been return of palpitation. Progressive diminution of cardiac reserve had occurred. Five years before final hospitalization, a chronic non-productive cough had appeared and at times had become so severe that he had been unable to work. Exertional dyspnea became marked ten months be-

fore final admission and this symptom along with pain in the left loin led to the patient's first stay in the Long Island College Hospital from January 1, 1938 to February 16, 1938. At the time of this admission there was moderate cardiac insufficiency which responded to bed rest. Rheumatic heart disease with mitral stenosis was the discharge diagnosis and the functional rating was II A. The improvement from this first admission was transitory. During the late summer of 1938, two months before the final hospital entry, the symptoms of heart failure returned in exaggerated form. One month before entry ankle edema developed. On standing his knee caps would become purple. Progression of these symptoms induced the patient to return for his second and final hospitalization.

Frequent sore throats had been noted before onset of present illness, but there was no history of arthritis. Family history was irrelevant.

Admission Findings

T. 98.8° P. 88 R. 30 BP. 120/80
THE patient was poorly developed, pale, acutely ill, cyanotic and slightly jaundiced. Dulness, suppressed breath sounds and crackling râles were noted posteriorly at both bases, the râles being more numerous on the left. The heart was greatly

enlarged. A strong impulse was seen in the sixth intercostal space in the axilla. With systole there was a wave of retraction in the third, fourth and fifth intercostal spaces which moved from the midclavicular line across to the sternum with a "walking beam" effect. The rhythm was totally irregular. Presystolic and systolic murmurs were present at the apex and at the base a systolic murmur was heard in the aortic area. The liver was enlarged and tender, reaching four fingerbreadths below the costal margin. Pitting edema of the ankles was present. The admission diagnosis was rheumatic heart disease, auricular fibrillation, mitral and aortic valvular disease, and congestive heart failure.

Laboratory Data

BLOOD count: Hgb. 84.4 per cent (Haden-Hauser); RBC 4.05 millions; WBC 8,600; P 74 per cent, SL 18 per cent, LL 2 per cent, E 2 per cent, M 4 per cent. Urinalysis: Acid, sp. gr. 1.010, albumin present, negative for sugar, a few RBC but no casts in centrifuged specimen on microscopic examination. Blood chemistry: Urea 38.5 mgm. per cent; serum albumin 3.45 gm. per cent, serum globulin 2.64 gms. per cent, total protein 6.09 gm. per cent. Blood serology: Kahn and Hinton negative. Blood culture: no growth. X-ray: Considerable cardiac enlargement of the double mitral type with marked pulmonary congestion and possibly some free fluid in the left pleural cavity. EKG: (October 24) Ventricular rate 70. Deviation of electrical axis: right. Auricular fibrillation. Ventricular premature beats in leads I and III. Low voltage QRS deflections in all three leads. QRS slurred in leads II and III. Low amplitude T waves in lead I. Diphasic T waves in leads II and III with low take-offs. These abnormalities were thought to indicate ventricular myocardial disease and digitalis effect.

Course in Hospital

DETERIORATION in the patient's condition was rapid. Temperature and pulse began to rise forty-eight hours after admission and continued to mount until exitus October 29, five days after entry. The terminal course was marked

by increasing cyanosis and jaundice and by signs of peripheral circulatory failure. In a note dictated October 28, Dr. Howard noted general pallor with cyanosis of the ears and nose with complete absence of discernible arterial pulsations. The blood pressure was noted on this day as 90/60. The condition was attributed to peripheral circulatory failure. There was systolic pulsation of the liver in addition to the signs previously noted. The second aortic sound was absent. The final clinical diagnosis was rheumatic heart disease, mitral and aortic stenosis, tricuspid insufficiency, auricular fibrillation, and congestive heart failure.

Pathological Report

THE heart (Fig. 1) was enlarged to approximately twice its normal size, weighing 550 grams. Not only were all four chambers dilated, but their muscular walls were also increased in thickness.

The valves were free from vegetations or rheumatic scarring and there were no thrombi, except in the coronary sinus which opened into the right auricle, where there was a large thrombus extending far into the smaller ramifications and protruding for a distance of several millimeters into the cavity of the auricle. A more striking finding was made in the left auricle. This chamber was almost completely filled by an immense old reddish-grey thrombus which was firmly adherent to the underlying endocardium and reduced the cavity of the chamber to a narrow inverted-pear-shaped lumen extending from the openings of the pulmonary veins to the mitral valve ring. The cut surface of this thrombus, exposed on opening the heart, had a faintly laminated structure and was a lighter yellow than the outer surface. The endocardium beneath it, although it was roughened, showed none of the characteristic wrinkling of rheumatic auriculitis. The mitral orifice was a narrow ellipse, 1.5 cm. in its greater diameter, formed by fused, rigid, immovable and greatly thickened valve flaps. The chordae tendineae running from the papillary muscle to the valve were likewise shortened, thickened and nodular. There were no verrucae on the valve but the lesion

was undoubtedly rheumatic in origin and the result of repeated episodes of damage and fibrous repair. The left ventricle was normal save for muscular hypertrophy and dilatation. There was no scarring. The aortic valve cusps were calcified, nodular, thickened and deformed. They were fused at their commissures to such an extent that the aperture was decreased to a diameter of 0.5 cm. The stiffening prevented closure of the valve beyond this point. Several tiny raised yellow nodules were situated on the free margin of the valve. Although the mouth of the left coronary artery was somewhat narrowed, elsewhere these vessels were widely patent and normal in appearance. There was a large accessory right coronary artery.

Histologic examination of the heart revealed numerous Aschoff bodies in the myocardium and fibrinoid vegetations on the aortic valve, indicating the continued activity of the rheumatic process.

The lungs, spleen, liver and pancreas showed evidence of marked, long-standing chronic passive congestion. The pulmonary arteries had numerous large and small atheromatous plaques on their intimal surfaces, the result, presumably, of increased arterial pressure in the pulmonary circuit.

Anatomical Diagnosis

1. Endocarditis, rheumatic, acute, aortic valve
2. Endocarditis, rheumatic, chronic, aortic and mitral valves
3. Myocarditis, rheumatic, acute
4. Stenosis, heart valves, mitral and aortic
5. Insufficiency, heart valves, mitral, aortic and tricuspid
6. Thrombus, left auricle and coronary sinus
7. Enlargement of heart, due to hypertrophy
8. Enlargement of heart, due to dilatation
9. Chronic passive congestion, lungs, spleen, liver and pancreas
10. Infarct, healed, spleen and kidney.

Discussion

THROMBI of the heart principally occur as complications either of arteriosclerotic or of rheumatic heart disease. In



FIG. 1

Heart showing thrombus in left auricle and stenosis of mitral valve with old vegetation.

the first instance they usually occur on the heart wall or septum following myocardial infarction due to coronary occlusion. In rheumatic hearts, they may be found either in the auricular appendage, or attached to the wall of the auricle, or lying free, as "ball thrombi," within the auricle. Thrombi of the auricular appendage are not at all uncommon and may occur not only in rheumatic hearts, but in apparently normal hearts as well. On the other hand, large mural thrombi and so called "ball thrombi" are distinctly uncommon, particularly the latter, and are usually seen only as complications of severe long-standing mitral stenosis with auricular fibrillation.

The signs of thrombus of the heart vary with the site and the character of the clot. Infarction of a limb or of another organ may be the first indication, and perhaps the only one, when the clot has formed in the auricular appendage,

or when only a small mural thrombus exists. A large auricular thrombus, however, such as was found in the present case, may cause other symptoms. The intensity of these symptoms will vary with the degree of mitral obstruction which in turn will depend upon the character of the thrombus. A large thrombus relatively firmly fixed to the wall, as in the case just described, may only cause exaggeration of the familiar signs of mitral stenosis. Should the attachment to the wall be by a slender pedicle, however, or should the thrombus lie free within the auricle, then a dramatic chain of symptoms may occur as a consequence of intermittent obstruction of the stenotic mitral orifice. The older clinicians seem more familiar with this picture of "ball thrombus of the heart" than do recent medical writers. They emphasized these signs: mitral stenosis with irregular pulse; periodic decrease or even periodic absence of peripheral arterial pulsations; cyanosis or local gangrene of the extremities, the tip of the nose or the margin of the ears; and, finally, a general appearance of desperate illness without other adequate explanation.

IN the present case, the clot constituted a gross obstruction to the passage of blood through the left auricle. This was manifested by the lack of discernible pulsation in the arteries and by the high degree of cyanosis and dyspnea. The history records that the patient himself had

noted marked cyanosis of the knees on standing but this rather unusual observation was not sufficiently considered. The contrast between the strong apical beat and the weak peripheral pulse, the accentuated signs of mitral stenosis and the peculiar localized cyanosis of fingers, ears, nose and knee caps were all significant. The extent of attachment of the thrombus to the wall limited its mobility, so that the complete ball-thrombus syndrome was not exhibited.

From an anatomical point of view the rheumatic etiology of the heart lesions was strongly suggested by the characteristic type of scarring and fibrosis of the mitral and aortic valves and confirmed by the demonstration of Aschoff bodies not only in the myocardium, but in the verrucae of the aortic valve as well. Apart from the auricular thrombus it was rare to find thrombosis and apparently complete occlusion of the coronary sinus. The obliteration of this chief channel of venous return from the myocardium must have increased the pressure in the venous system of the heart and contributed to the myocardial failure.

Summary

AN unusually large mural thrombus was found in the left auricle of the heart of a patient dying of acute and chronic rheumatic heart disease. Thrombi of the heart are discussed in general and with specific reference to this case.

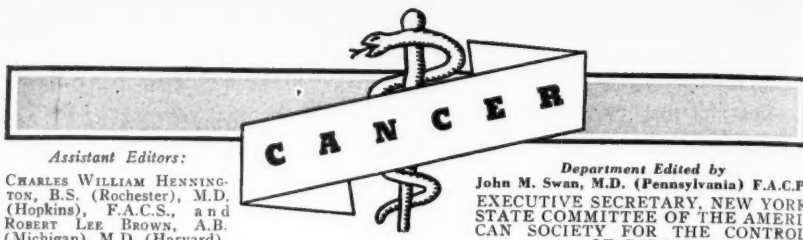
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PROFESSIONAL HONOR

The obligation assumed on entering the profession requires the physician to comport himself as a gentleman and demands that he use every honorable means to uphold the dignity and honor of his vocation, to exalt its standards and to extend its sphere of usefulness. A physician should not base his practice on an exclusive dogma or sectarian system, for "sects are implacable despots; to accept their thralldom is to take away all liberty from one's action and thought." (Nicon, father of Galen.)

—From the Code of Ethics of the A. M. A.



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CANCER of the lung is a pathological condition which is present more frequently than is generally realized. One of the reasons that it is not recognized or diagnosed is that the physician does not consider it as a likely possibility. Too often such pitfalls in the diagnosis of lung cancer are gripe, bronchitis, chronic organizing lobar and bronchopneumonia and pulmonary tuberculosis. MacDonald gives in addition abscess of the lung, actinomycosis, echinococcus infestation, esophageal lesions, aortic aneurysm and cardiac insufficiency as frequent sources of error. When the true diagnosis is thus delayed unequivocal harm has been caused. Mortality statistics give cancer of the lung as the cause of 5.0 per cent (Eggers) or 5.9 per cent (Hruby) of all cancer deaths. The disease is found in 1.0 per cent of all autopsies. In New York State in 1937, 985 cases of cancer of the lungs and pleurae were recorded, 5.02 per cent of all deaths from cancer.

Report of Case

History. R. T., a man aged 57 years, was seen on April 20, 1939, complaining of cough associated with pain in the chest. He had dyspnea and was very

weak. Although he had been sick for two weeks he had attempted to work. Because of paroxysmal coughing and lassitude further medical advice was requested, at which time I first saw the patient.

Physical Examination. The patient

had been a well developed and well nourished man weighing 165 pounds. Examination revealed a man who appeared sick and who was coughing. Hoarseness was also noted. He had dyspnea and very slight cyanosis. The temperature was 37.5°C. There were telangiectatic areas (2x2.5 cm.) and enlarged veins over the left chest. On auscultation the breath sounds were altered and distant. At this time an infectious condition

was diagnosed. For the relief of pain adhesive strapping was applied to the chest and a cough mixture containing codeine (.015 grams) was prescribed. His condition remained the same for the next few days during which time the temperature fluctuated between 37.5°C and 38.2°C. The pain in his chest had become less severe. However, he was expectorating a thick brownish and blood-streaked sputum. Although the diagnosis of lobar pneumonia was not definitely entertained,

CANCER OF

Lung

Report of a Case

JOHN G. STUBENBORD, 3d
M.D.

Douglaston, New York

nevertheless, the sputum was typed. The laboratory report dated May 1, 1939, read:

Sputum Typing—

No direct Neufeld with Groups A B C D

Very few gram-positive cocci

No pneumococci

Acid-fast stain—No acid-fast bacilli

Mouse Method—

No Neufeld with Groups A B C D E or F

Gram-positive cocci—some in chains

FOLLOWING a general rule that x-ray study of the chest is always indicated when the sputum changes from its normal consistency or color regardless of the duration of symptoms or signs, and in cases of persistent cough, this procedure was decided upon and was made on May 6th. The examination showed an extensive opacity of the lung. The process radiated outwards from the hilum where it was quite dense towards and to the periphery of the lung. In the outer zone the appearance was densely reticular. The process appeared to involve the region of the lower portion of the left upper lobe. The diaphragm and costophrenic sinus on the left side were obscured by a small amount of pleural fluid. The spaces on the left were narrowed and the chest wall was somewhat flattened. The mediastinum was not displaced either to the right or to the left. The trachea was in the mid-line. The right diaphragm was irregular and tented mesially. The bronchial markings in the right lower and middle lobes were increased. Impression: The findings are those of neoplasm. This should be checked, however, by repeated search for tubercle bacilli in the sputum and by bronchoscopy. Bronchogenic carcinoma of left upper lobe.

THE patient was admitted to the Roosevelt Hospital on May 5, 1939, for further study. He continued to run a low grade fever (37.5°C). The lung showed flatness, diminished breath sounds and diminished fremitus over the whole of the left lung with a few moist râles over the left upper lobe. The right lung was clear. The heart was not en-

larged; the sounds were faint and accompanied by a friction rub; regular sinus rhythm; no murmurs and the blood pressure was 120 systolic, 80 diastolic. The blood count showed a mild anemia (red blood count 3,300,000; hemoglobin 69 per cent) with slight leukocytosis (white blood count 12,000; polymorphonuclears 76 per cent). Blood chemistry revealed urea nitrogen 12; blood sugar 98. Blood Wassermann and Kline tests were negative. The sedimentation rate was 27. Urinalyses were negative. Repeated examinations of the sputum for acid-fast bacilli were negative. A second x-ray of the chest (5-22-39) showed a dense shadow of the entire left lung field which probably was not entirely represented by fluid, in view of the fact that the heart was not markedly displaced. The nature of this shadow was indefinite. The underlying lung pathology was totally obscured by this density. On May 24th, 1,500 cc. of clear fluid was removed from the chest. Thoracentesis was repeated on June 1st. The pleural fluid showed no bacterial growth. Signs of obstruction of the circulation of the left arm had developed so that the left arm was swollen and appeared almost double its natural size. Metastases to the left auxiliary and supraclavicular lymph nodes were palpable. The patient had an electrocardiogram which showed slurring QRS one, two, three and four, with upright T in all leads. This was interpreted as showing evidence to indicate myocardial conductive disturbance. The hoarseness was thought to be due to some involvement (by the tumor) of the left recurrent laryngeal nerve because the left vocal chord did not move. Medical treatment for the relief of symptoms and irradiation had been instituted. The patient's weight upon his discharge from the hospital on June 21st was 139 pounds as compared to 154 pounds on admission. When last seen at his home on June 29, 1939, I had made the following notation:

"Patient shows progressive lassitude and loss of weight; still coughing and complaining of pain in the chest. Temperature 36.5°C; blood pressure 112, systolic; 64, diastolic. The left chest is

—Concluded on page 540



CULTURAL MEDICINE

THE sixteenth century physician known as Nostradamus has been declared the most celebrated of prophets outside of the Bible. Because of his alleged foretelling of the abdication of Edward VIII he has recently come into prominence again. His prophesied events, as they occur, bring him again and again into the limelight. So it is perhaps worth while to reexamine this curious member of the medical guild and try to learn what it is that still makes him tick, as it were. The Metro - Goldwyn - Mayer Pictures corporation recently issued a timely picture on Nostradamus as one of its stories titled "What Do You Think?"

Michel de Nostredame was born at St. Remy, Provence, in 1503 and died in 1566. He was descended from court physicians, mathematicians, and men of exceptional learning of the Jewish tribe of Issachar, long gifted in prophecy, which is merely to say that he knew and understood the times, in the manner of the wise men of *Chronicles* and *Esther*, and concerned himself about such learning primarily because of the necessity of knowing the future fortunes of his people and because of his interest in plans to meet incidental exigencies. His supposed reliance upon astrology was probably a blind for his real tools and technic, which rested upon something more intellectual than star-gazing. So, like his ancestors, he became a physician to kings and queens who hung upon his words, e.g., Henry II, Charles IX, and Catherine de' Medici, and was loaded with honors by the court at Paris.

Samuel Taylor Coleridge, in his "Table Talk", remarks that peoples other

than the Jews all "seem to look backwards, and also to exist for the present; but in the Jewish scheme everything is prospective and preparatory; nothing, however trifling, is done for itself alone, but all is typical of something yet to come." Certainly no cultural group in the world has so abounded in prophets, a fact which conduces to a better understanding of Nostradamus.

Nostradamus studied the humanities and philosophy at Avignon and took his degree in the theory of medicine at Montpellier in 1529. He gained some distinction in fighting the dreaded Black Plague at Lyons and elsewhere, but it took his wife and two sons. There does not appear to be any ground for the common assumption that the term *nostrum* is derived from the name Nostradamus. His "Centuries" consist of a thousand quatrains, of which about one hundred and fifty are alleged to represent fulfilled prophecies.

One of the most celebrated of the prophecies is that foretelling the beheading (and the time of it) of Charles I by the English Parliament:

Senat de Londres mettront à mort leur Roy.

The Cromwellian Protectorate (1653-1658) was seemingly foretold in the following words: "A Butcher more than King will rule England. A man of no birth will seize the government by violence. Of loose morals, without faith or law he will bleed the earth. The hour approaches me so near that I breathe with difficulty." It will be noted that Nostradamus did not quite hit off the character of Cromwell, and similar flaws vitiate many of his prophecies.

NOSTRADAMUS

As to Napoleon: "An emperor shall be born near Italy, bought by the Empire at a bankrupt rate: you'd say the herd he gathers to himself denote him butcher rather than a prince."

As to England again—and this will have present meaning to the credulous: "England will rule the great empire for more than three hundred years." This would seem to mean that she has nearly reached the end of her dominating period, which eventuality some would insist is already foreshadowed by current events.

A reading of the "Prophecies" themselves has not greatly impressed us. And there have been too many tortured and ingenious interpretations by clever commentators, relying largely upon such things as fortuitously useful anagrams. What is so remarkable about a click now

and then where so many prophecies have been made by a man of keen and informed intellect? We have a host of prophets today better qualified than Nostradamus. Hitler, according to Nicholas Murray Butler, employs five "astrologers" to guide him.

All prophetic power is not of the race of Nostradamus, for did not Leonardo da Vinci write?:

Men standing in different hemispheres will converse and touch each other, and embrace each other, and understand each other's language.

For here are radio and television foreseen and metaphorically characterized by a mind far greater than that of Nostradamus. When one reflects upon Leonardo's profound knowledge of his own world and of the nature of man there is nothing so extraordinary about his preview of the world to come.

Doctors AND THE RISE OF CIVILIZATION IN LONG ISLAND

COURTNEY R. HALL, Ph.D.

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Garden City, N. Y.

FOR some fifteen years or so your speaker has been involved in the work of doctors, especially in the area of New York and Long Island. First stimulated by his graduate professor to study the work of a particular doctor, who happens to have been a Long Islander, the work of the profession in America has become more and more absorbing. It has carried itself along to research into various aspects of American medicine. Not merely Samuel L. Mitchill, whose

biography resulted from the commands of the higher ones at Columbia, but other individuals, have come to mean much. Valentine Mott, also a son of Long Island as well as the greatest American surgeon of his time; James De Kay of Oyster Bay, a renowned naturalist; Edwin W. Webb, physician of fifty years experience in Hempstead; Daniel Menema, surgeon of the Continental Army; Valentine Seaman, pioneer in smallpox prophylaxis; Wright Post, one of the greatest anatomists of the profession; Henry Mott, father of Valentine, a founder of the Queens County Medical Society in 1806; Benjamin F. Thompson, who was the first historian of Long Island, in addition to his work in medicine; Peter Townsend, who was a leading naturalist of the early nine-

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MEDICAL TIMES, NOVEMBER, 1939

teenth century. Besides interesting himself in the doings of the Long Islanders of the old days, your speaker also once took a deep dive into military medicine, in which he endeavored to discover the ways the Confederate Army took care of their wounded during the long and bloody War of 1861.¹

Let us for a moment consider the situation in medicine in Long Island about the time of the American Revolution. There were no medical schools, no hospitals, no medical societies, or libraries. Young men who wished the best in medical training had to go to Edinburgh, London or to Leyden, a very expensive proceeding. In a twenty year period in the eighteenth century, some fifty-eight young Americans took advantage of the preeminence of these foreign medical schools, and returned to become the leaders of their profession, both in instruction and practice, in New York, Philadelphia and Boston.

This is another way of saying that very few communities, one hundred and fifty years ago, had well-trained physicians and Long Island like the rest of the country, suffered from this lack, though she sent a distinguished group to Europe for advanced study. In the very early days, untrained laymen, ministers of the gospel, and well-meaning ladies undertook to practice medicine armed with poultices and powders, among the afflicted of their Long Island villages. An intimation of the kind of work they did is indicated by a court order granted in Huntington in 1677 to Jonas Wood to practice medicine "upon intimation of divers considerable cures in chirurgery done on several persons" by him, and by a license granted to a Huntington shoemaker, "a fellow with worsted cap and great black fists" to do likewise; in Hempstead, at about the same time, a cooper was listed as a physician. In his leisure hours, doubtless. Mysterious

deaths in this period were a puzzle, as that of the Governor of the colony, Slaughter, in 1691, and while many were prone to write papers explaining the cause of fevers, lung complaints and bonesetting, the doctors bought their instruments at New York hardware stores and dentists, so-called, frequently made their own. Of the latter profession, we are informed that tinkers, barbers, wig-makers and clock-makers did necessary extracting. If one was so unfortunate as to lose all his teeth, he wore "plumpers," which were little ivory balls. George Washington wore plumpers, late in life.

MEDICINE, in the colonial days, was thus the work of a conscientious but untrained person or of a mountebank; New York Colony acted in 1684 to prevent any "Chirurgion, Midwife, or Phisitian" to "exercise any force, violence or cruelty upon or towards the body of any neither young or old without the advice and consent of such as are skillful in the said arts (if such may be had) or at least of some of ye wisest and gravest then present and consent of the patient and patients if they be mentis compotes."

As late as the time of the Revolution patients were still placing their faith in bodily health in such remedies as Mrs. Marten's Tuscarora Rice to cure consumption; John Tennant's rattlesnake root to end pleurisy; the Chinese stone to cure snakebite, cancer, toothache, gout and labor pains; the anodyne necklace which would save children from the grave by curing fits, fever, gripes, whooping cough or convulsions. The medicine show thrived and the profits of such were great. Elixirs, miraculous herbs and just plain dirty mixtures were thus peddled to the public by the charlatans of the time. Assuredly we have come a great way since 1776 with its "Waters of Life" made of the most absurd and disgusting concoctions, its perfumes against catching the plague, its use of beaver skins to cure the gout, its prescription of snail water and tar water for the smallpox, dysentery and ulcers. Meanwhile hordes of people were carried off each year by the yellow fever, by smallpox, and by tuberculosis, and the infant mor-

¹ Published works regarding the above include: A Scientist of the Early Republic, Samuel Latham Mitchell, 1764-1831, New York, 1934; A Chemist of a Century Ago, in the Journal of Chemical Education, March, 1928; Doctors and the Practice of Medicine in early Nassau County, in the Annals of Medical History, April, 1937; Caring for the Confederate Soldier, read before the American Historical Association at Chattanooga, Dec., 1935, reprinted in Army Ordnance, July-August, 1936 and in the Journal of the American Military Foundation, Summer, 1937; and in Medical Life, (entire number), September, 1935.

tality from a wide variety of complaints was terrific.²

Some relief from this deplorable situation was afforded by the founding of medical departments in the colleges at New York, Philadelphia and Cambridge just prior to the Revolution; by the establishing of scientific societies and journals of medicine; by the appearance of hospitals and special institutions for the deaf, the insane and the blind; by the steady improvement of standards for medical practice; by the improvement of public information through better schools, newspapers and books about medicine and sanitation.

One cardinal principle stands out, in considering the advance of civilized life in any section: the advancement of a people can be as accurately measured by the relative development of the medical profession as by any standard known. In that country, or section, in which the physician is carefully trained and conducts his work with due regard to the best ideas of sanitation, hospitalization and post-surgical care, that section is invariably one inhabited by cultured, intelligent and alert people. There you will find happy homes, healthy children, a high level of intelligence among the adults, and a high standard of living among the workers. The idea that the physician is a person who does little for you, and charges you excessively for it, is as untrue as it is unjust. On the contrary, his last-ditch efforts have frequently preserved for longer usefulness great statesmen, educators and other leaders.

WHEN we ask what part Long Island played in the long struggle of science against disease, we are obliged to restrain our reply, lest it seem immodest. This region saw the early progress of medicine; in 1806, the same year as the law authorizing them, both Queens and Suffolk Counties organized medical societies, which exist to this day. A Long Islander, Samuel L. Mitchill, established the first medical journal to be published in this country, the *Medical Repository*,

founded in 1797. The editor of this publication deserves a little extra mention. A Quaker from near Manhasset, he was trained in medicine at Edinburgh and came to practice, write and experiment for 45 years; for he was a scientist as well as a physician. As professor in Columbia and in three of the early medical schools which rose in the New York area, he became renowned as an authority upon chemistry, geology, ichthyology and zoology to such an extent that learned men of Russia, France, Italy, Great Britain, Spain and Denmark elected him to their groups; he was elected to the State legislature, to Congress and the United States Senate. In the national arena he enjoyed the friendship of President Jefferson, himself a friend of science, just as in the New York area he was friend of De Witt Clinton and Robert R. Livingston. His accurate knowledge upon a variety of subjects was so astounding that Jefferson was fond of calling him the "Congressional Dictionary" and John Randolph of Roanoke named him the "Stalking Library." "Tap the Doctor and he will flow," they said, and he certainly did.

When the Erie Canal was opened in 1825, he presided at the ceremonies, pouring into the Hudson bottles of water from the Ganges, the Amazon, the Orinoco, the La Plata, the Danube and other rivers; when Fulton's steamboat ascended the Hudson, Mitchill stood with the inventor on the deck; when the Tammany Society or the Turtle Club or the Krout Club needed a witty and ready speaker, it was to him they turned; when the Glorious Fourth came along, he addressed the citizens of New York; when American sailors needed relief, he it was who spoke in Congress in their behalf; when the bankers of the country complained of counterfeit money, it was Mitchill, the chemist, who told them how to detect the forgeries; the defective gunpowder which the Navy possessed in 1812 was improved through his suggestions. In his spare moments he tested the springs at Saratoga and other spas, examined the rock strata of the Hudson, prepared the fish of New York for his private museum, advised the farmers of Long Island, composed nursery rhymes for children, and stud-

² Some of the above was condensed from Miss Bernice Schultz, *The Health of our Fathers*, in the Nassau County Historical Journal, Spring number, 1939.

ied the history of the American Indian. His activities were so wide that one is surprised to learn that he was probably the best-known scientist of his time, for we are suspicious today of one who delves into too many activities. But Mitchill wrote many books on science, hundreds of articles, edited the first medical journal for a quarter of a century, and was highly regarded by the scientists of Europe, besides teaching and practicing in this area all his life.³

SURGERY, like the other branches of medicine, languished in the early days. Long Island contributed to American medicine the finest surgeon of his time, in Valentine Mott of Glen Cove. Born in 1785, he studied at Columbia College, graduating the same year as the founding of the Queens and Suffolk County Medical Societies (1806). He was not content with this, but rounded out his studies at London and Edinburgh; at the age of 26 he became professor of surgery at Columbia College. In New York, for a lifetime, he was an example of the careful, self-possessed but bold representative of what was, in America, a new profession. He was one of the first to give clinical instruction in surgery; his achievements in operative surgery almost defy description, for that time. In 1818 he placed a ligature about the innominate artery, two inches from the heart; in 1821 he excised the right side of the lower jaw; in 1824 amputated a hip joint; he once cut a two-inch tumor from the jugular vein; he tied the carotid artery forty-six times. In 1828 he performed an operation which no surgeon attempted for thirty years after, when he removed a right clavicle, necessitating a tying of the jugular twice and many arteries as well. He was a plastic surgeon a century before plastic work became popular. Lithotomies to the number of 165 and amputations of more than 1000 give one a rough idea of how well Mott could work. He was a forerunner in anesthesia in the Civil War period. He trained himself to operate with both hands, and from his plain black garb he received

the name of the "Quaker Doctor." While on a tour in Europe and the East, he found time to remove a tumor from the head of the Sultan of Turkey, for which service he received an imperial decoration, which was matched by honors from all countries, for the nations of Europe overwhelmed him with attention. His modesty and diffidence doomed him to obscurity, but the world acclaimed him in the middle of the nineteenth century the master of the surgical art. The greatest English surgeon, who was also his teacher, Sir Astley Cooper, said of him: "He has performed more of the great operations than any man living, or any man that ever lived."

The work of Mitchill and Mott was outstanding, but there were others as well who deserve mention. Dr. Valentine Seaman, friend of Jenner, introduced protective inoculation against smallpox at a time when it was very unpopular; he added to this service a valiant defense of the anti-slavery cause and assisted the freeing of slaves in this vicinity; he helped to found the Queens County Medical Society and was one of the early teachers of his young relative, Valentine Mott. Dr. James E. De Kay, of Oyster Bay, added to distinctive medical achievements a strong interest in natural history, especially in the bird life of Long Island; his work on the land and water birds of Long Island, prepared at the request of Dr. Benjamin F. Thompson, remained for many years the standard. It is worthy of mention that Thompson, a medical man, was the first, and in many ways the best, of the historians of Long Island.

Wright Post, M.D., a native of this region, was another of the fortunate boys of the late eighteenth century who had European training. Student of a brilliant group of doctors in London, including the great John Hunter, he returned to this country to become the leading teacher of anatomy in the region. In New York he, with Valentine Mott, Samuel Mitchill, and David Hosack, contributed, by his teachings in anatomy, to making that city the leading center of medical teaching in the United States.

³ Information regarding Mitchill's various activities is to be found in his biography, by the author of this paper: *A Scientist of the Early Republic*, New York, 1934.

⁴ Kelly & Burrage. *Dictionary of American Medical Biography*, 880-82; S. D. Gross, *Memoir of Valentine Mott*; F. H. Garrison, *Bulletin of N. Y. Academy of Medicine*, series 2, Vol. 1, 209.

For thirty-five years he was a surgeon at the New York Hospital, and for five years president of the College of Physicians and Surgeons. His anatomical collection, which he brought back from England, was stolen and buried by a New York mob, in the 1790's, which had detected the skeletons through the windows of his lecture room. Post's answer to this was to return to England and bring back a much better one. In Oyster Bay, Dr. Peter Townsend became interested in the natural history of the region. He was one of the founders, along with Drs. Mitchell and Torrey, of the American Museum of Natural History, was Health Commissioner of New York in 1820, and founded a hospital for sailors in New York in the early years of the century.

These are but a few of the able predecessors of your group, who practised

the art of medicine on Long Island many years ago. It is not possible, in this sketch, to do justice to the many whose qualities of mind and heart aided in the struggle against infection and ill health during the past century-and-a-half. To return to an earlier remark, is it not true, that in that community or nation where the medical art is highly developed, there will be found a healthy, happy population? For the progress of civilization goes on in a parallel fashion with the progress of the art of healing. Long Island has had, in its medical history, an extremely large number of distinctive men in the medical group; better yet, they were not merely physicians and surgeons, they also viewed society in a philosophic manner, were interested in affairs of the nation, in science, politics and in their homes.

Bibliographical Note

Outside the notes in this article, much information is to be found regarding Long Island Doctors in the Dictionary of American Biography, especially under Mitchell, Mott, Menema, Post, Seaman, De Kay and Thompson. Colonel Fielding H. Garrison's Introduction to the History of Medicine is a mine of information on all medical matters in this country. Gross, Toner, Thacher, Kelly and Bur-

rage are the best of medical historians. No biography of Mott has been written; the author of this sketch has written the standard work on Mitchell. For the rest, see Peter Ross, History of Queens County; B. F. Thompson, History of Long Island; Jaqueline Overton, Long Island's Story; and other popular works.

PRESSOR EFFECT OF AMPHETAMINE

A. Benzedrine vapor was administered to 28 normal and hypertensive subjects by 20 rapid inhalations from the benzedrine inhaler, as indicated above.

1. This moderately acute overdosage had little effect on blood pressure.

2. It is concluded that therapeutic doses of the benzedrine vapor should not affect blood pressure except in cases of hypersensitivity.

B. Benzedrine sulfate was administered in doses of 20 to 30 mg. to a group of 23 hypotensives, normals and hypertensives, and in doses of 10 to 20 mg. to a group of moderately ill patients, most of whom were hypertensives.

1. The incidence of increased blood pressure after administration of 20 to 30 mg. benzedrine sulfate by mouth was, generally speaking, proportional to dosage, but varied with the individual and was apparently independent of the state of the subject's health.

2. Some subjects showed a decrease in blood pressure, in 1 case amounting to 25 mm.

3. With single doses of 10 to 20 mg., a significant rise occurred in 10% or less of the subjects. In hypertension, the drug would not necessarily seem to be contraindicated, but a careful check of blood pressure should always be made following its administration.

4. With doses of 30 mg., the incidence of significant blood pressure increase is considerably greater than with 20 mg. Great care, therefore, should be exercised in treating hypertensives with this dosage.

—W. Wallace Dyer, M. D.,
Am. J. M. Sc., Jan. '39.



CONTEMPORARY PROGRESS

Atrophic Rhinitis: Treatment with Estrogenic Substances

W. W. EAGLE, R. D. BAKER and E. C. HAMBLIN (*Archives of Otolaryngology*, 30:319, Sept. 1939) report

the treatment of 22 cases of atrophic rhinitis with estrogenic hormone. The method of treatment employed differed from that of Mortimer, Collip and their associates in Montreal in that patients were instructed to irrigate the nose twice daily with physiologic saline solution or 1:10,000 solution of potassium permanganate and repeat the irrigation ten minutes later to remove the crusts. After each irrigation, i.e., twice daily, 0.5 c.c. of estrogenic substance was sprayed into the nose, giving each patient 1 c.c. or 1000 international units of estrogenic substance daily. All but one of the 22 patients reported clinical improvement and wished to continue the treatment; the one exception was a woman in the menopause with multiple neuroses. None of these patients complained of deafness or tinnitus; several had a burning sensation in the scalp and occipital headache, which were relieved by the treatment. In 14 cases biopsy specimens were taken from the diseased middle turbinate before treatment was begun and during or after treatment. On examination of the nose at the time of the second biopsy, it was found that there was marked diminution or complete eradication of the crusts and absence of odor; the only changes in the mucosa noted on inspection were

a slight increase in hyperemia and a smoother surface. The second biopsy showed no widespread mucification, cornification or other alteration of the surface epithelium. There was some increase in the mucous character of the glands and increased "looseness" (possibly edema) of the connective tissue.

COMMENT

About a year ago, before we were sufficiently acquainted with the local administration of estrogenic hormones, we were rather critical of the results that might be obtained in the treatment of atrophic rhinitis. The comments we made were based upon our experience with the hypodermic injection of the estrogen. Since that time we have recommended the estrogenic hormone which can be used in the form of a spray and are well satisfied that the results obtained by its use have been more than worth while. We agree that in the beginning it might be wise to wash out the nose with some alkaline solution to remove the crusts, but, as the nose becomes clearer, such irrigations become unnecessary.

H.H.

Oral Administration of Potassium Chloride in the Treatment of Hay Fever, Nasal Allergy, Asthma and Sinusitis

A. F. ABT (*American Journal of Medical Sciences*, 198:229, Aug. 1939) reports the use of potassium chloride given by mouth in the treatment of hay fever, asthma, allergic rhinitis and sinusitis. The dosage for children varied from 1 to 4 gr. three times daily; for adults, 5 gr. three times daily were



RHINO LARYNGOLOGY

given. It is important to give potassium chloride dissolved in distilled water or in fruit juices; unless well diluted it may cause gastro-intestinal symptoms. It should not be given in undiluted form in capsules, powders or tablets, nor with syrups. During the period of treatment the sodium chloride intake should be restricted. Potassium chloride is contraindicated in persons with adrenal insufficiency. In all the conditions treated there was definite relief of symptoms in a few days. The best results were obtained in children suffering from hay fever combined with asthma; the wheezing stopped in twenty-four to forty-eight hours in such cases, and other symptoms were much relieved. In cases of hay fever in adults the sneezing and nasal congestion were much relieved. In allergic rhinitis, after three to five days' treatment, the watery nasal discharge ceased, the nasal mucous membrane appeared more normal and the edema of the turbinates decreased. In the cases of sinusitis treated (either chronic or following acute upper respiratory tract infection), the

feeling of nasal fullness and discomfort was much relieved; the nasal discharge became less tenacious; if there was maxillary sinus tenderness this was relieved. The author is of the opinion that there is an allergic factor in some cases of sinusitis. In the cases treated by the author, no determinations were made of the sodium or potassium content of the blood, or of the urinary excretion. Several of the patients noted a mild diuresis under the potassium chloride treatment. The author suggests that the ac-

tion of the potassium ion may displace the sodium ion in the tissues, producing "a local tissue dehydration." This may account for the improved drainage in sinusitis and the decrease in turgidity in the nasal mucosa in allergic rhinitis. "The exact pharmacological action of the potassium ion in these conditions deserves further intensive study."

COMMENT

So many treatments have been advised for allergic conditions in the nose, throat and lungs as hay fever, asthma, sinusitis, etc., that we hesitate to suggest that any

specific remedy will accomplish much. The author may have obtained good results from potassium chloride but it is our opinion that the majority of these patients are suffering more from a calcium deficiency than from any other chemical lack in the blood. As a matter of fact, we advocated this method of treatment a number of years ago but found the variations so great that we did not think it worth while to continue with it.

H.H.

Paredrine in the Treatment of Sinusitis

L. D. SULMAN (*Medical Record*, 150:27, July 5, 1939) reports the treatment of sinusitis in over 100 ambulatory patients at St. Vincent's Hospital, Philadelphia, and in a small group of children, with the Proetz displacement method, using paredrine. With this method the turbinates were shrunk by introducing cotton packs moistened with paredrine hydrobromide; for adults a 3 per cent. solution was used, and for children a 1 per cent. solution. Then with adults 4 c.c. of a 0.25 per cent.

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solution were instilled into each naris according to Proetz's technique; for children 2 to 3 c.c. of the same solution was used. Treatments were given twice a week until the symptoms were considerably relieved, then once a week. For home treatments, the ambulatory patients were given a prescription for 3 per cent. paredrine which was to be dropped into the nares three times a day. If patients were subject to "frequent nasal stoppage" they were instructed to use a benzedrine inhaler. In the children 1 per cent. paredrine was instilled into the nose three times a day as long as there was any congestion of the nasal mucosa. In both groups, the symptoms of sinusitis were completely relieved by the treatment. In neither group was there any symptom of irritation from the paredrine. Tests made by the interns at the Hospital on themselves showed paredrine more effective in shrinking the nasal mucosa than ephedrine and less irritating. All but one reported some irritation or burning with ephedrine, but only one reported such a reaction with paredrine. The successful use of the Proetz method, using paredrine for washing the sinuses in children, without any reaction, is additional evidence of the greater safety of this drug as compared with ephedrine.

COMMENT

We fail to see why any specific medication should be recommended for the treatment of sinusitis. If the sinuses are inflamed or definitely infected, what is necessary more than anything else is to see that free drainage is instituted and the general condition of the patient built up. Of course, it is worth while to know of some good substitute for ephedrine, but certainly one can not feel that the medicine itself can act in any specific way.

H.H.

Therapeutic Value of Iodized Oil in Bronchial Asthma

L. H. CREEP (*Southern Medical Journal*, 32:704, July 1939) reports the treatment of 70 cases of bronchial asthma resistant to other methods of treatment with iodized oil. In 20 cases the oil was given by intratracheal instillation, in 40 cases it was given intranasally and in

10 cases bronchoscopically. Only 10 patients (14.5 per cent.) were definitely benefited by the iodized oil therapy, and improvement in most cases was only temporary. Another group of 10 asthma patients treated elsewhere by this method and under the author's observation failed to show definite improvement. Unmedicated peanut oil was given intranasally to 15 patients; 3 of these (20 per cent.) showed temporary improvement. From these results and from replies to a questionnaire sent to allergists and rhinologists, the author concludes that treatment with iodized oil or unmedicated peanut oil may result in temporary improvement in about 15 per cent. of cases of intractable asthma. There is danger of untoward reactions to treatments, and the use of this method is indicated only in patients who have failed to respond to other methods of treatment.

COMMENT

The number of iodized oils that are now being placed on the market is sufficient evidence that such an oil has definite therapeutic properties. We cannot feel that intractable asthma should be empirically treated in this way. What is of importance is to get hold of the etiological factor and then tide the patient over the acute attacks as best one can.

H.H.

Rhinosporeidiosis

J. BUCHMAN (*Archives of Otolaryngology*, 30:239, Aug. 1939) reports a case of rhinosporeidiosis in a woman residing in Brooklyn, New York. She had never had frequent head colds or sinus infection; in the last two years and a half she noted that the left side of her nose was "stuffed"; this blocking became worse. Later she noted a discharge of blood from the left nostril whenever she blew her nose; and within the last six months severe headache involving the left side of the head had developed. Examination showed a "leaf-like" growth attached to the lower anterior part of the septum on the left side which bled on slight manipulation and a large polypous mass underneath the middle turbinate which also bled profusely; the diagnosis of rhinosporeidiosis was made from the study of biopsy specimens from these two growths at Beth

Israel Hospital, New York. No similar case had ever been observed there. Both growths were removed, their removal causing profuse bleeding. Both recurred and were again removed. Following this second operation, treatment was begun with irrigation of the nose with antimony and potassium tartrate, 5 per cent. solution, followed by application of a chlorhydroxyquinoline ointment. There was no further recurrence and the patient was in good health six months later. A review of the literature shows this case to be the eighth case of rhinosporidiosis reported in North America and first in North America in which the condition occurred in a female. The first case in North America was reported in 1907 by J. Wright. The disease has been reported chiefly in India, Ceylon, Africa and the Philippine Islands. The *Rhinosporidium seeberi* is a fungus—a round or oval cell somewhat smaller than a red blood cell which forms spores;

the characteristic lesion is a polypous mass that bleeds easily (as in the author's case); there is no invasion of the deep tissues or the blood stream; the spores are present in the nasal discharge. Removal of the growth is usually followed by recurrences, but the treatment adopted in the author's case (as suggested by R. E. Wright in the *Indian Medical Gazette*, 1922) was successful in preventing such recurrences. The cause of original infection is unknown and the author states that he is unable to explain "how autoinoculations at new sites take place."

COMMENT

The condition here mentioned is so rare that one is not likely to come up against such a case even after years of practice. However, the reports of such cases are more than worth while because it shows that we must be on the lookout for unusual conditions in the nose.

H.H.



Sulfanilamide and Roentgen Ray Therapy for Acute Otitis Media and Mastoiditis

F. D. WOODWARD (*Laryngoscope*, 49:572, July 1939) notes that in the last two years sulfanilamide has been used in the treatment of acute ear infections in the Department of Otolaryngology, University of Virginia Hospital. In the cases treated with sulfanilamide "the old and accepted methods of treatment have been followed"; the sulfanilamide has "merely been added to the armamentarium." The usual dosage used has been approximately 1 gr. per 2 lbs. body weight each twenty-four hours given by mouth; occasionally the drug has been given parenterally. There have been no serious complications, but "the usual untoward reactions" to the drug have

been observed in some cases. Comparing the results obtained in the eight years preceding the use of sulfanilamide with those in the last two years the author finds a reduction in the number of mastoidectomies and in the percentage ratio of operation to acute otitis media in the last two years; also a reduction in the incidence of all complications of otitis media except meningitis. Of the 8 cases of meningitis complicating acute otitis media occurring in this period, 6 were fatal, but in these cases the complication was either present at the time of the patient's admission to the hospital or was due to an organism not affected by sulfanilamide. In the 2 cases that recovered, recovery was undoubtedly due to sulfanilamide; one was a pneumococcus type III infection, the other a hemolytic streptococcus infection complicated by epidural abscess and cavernous sinus thrombosis. In the author's experience sulfanilamide has been of definite benefit, often effecting "dramatic cure" only in hemolytic streptococci and certain types of pneumococci infections, but as these organisms are most frequently re-

sponsible for acute ear infections, the drug may be expected to be of definite value in the treatment of any series of cases of otitis media. Roentgen ray therapy was tried in 34 cases of acute otitis media which were referred to the radiology department and given "adequate therapy"; there was no evidence of any definite benefit from the treatment in these cases. The author notes, however, that he has seen "considerable benefit" from the use of Roentgen therapy for the reduction of lymphoid tissue "in the nasopharynx and about the orifice of the Eustachian tube," for the control of exuberant granulation tissue after radical mastoidectomy, and in the treatment of polyps and granulation tissue in chronic purulent otitis media.

COMMENT

Now that sulfanilamide therapy has become an established fact, considerable data will be collected in the course of time on the unfortunate results from improper administration and, what is more important, the masking of symptoms. One must realize that in acute otitis media, with a possible mastoid involvement, the blood count is lowered, the strength of the bacteria becomes attenuated so that there is little temperature, and the patient may have no significant symptoms which will point towards a mastoiditis. Within recent months we had a case of a discharging ear with no evident symptoms of a mastoiditis, probably because of former sulfanilamide therapy. An exploratory operation on the mastoid process was advised. We were amazed to find a total destruction of the cells although the blood count was low, the temperature normal, and the x-ray indicating a process which might clear up.

We shall have more to say about the Roentgen ray therapy in commenting on the next abstract.

H.H.

Roentgen Therapy in Acute and Chronic Otitis Media

J. P. BROWN and his associates at the Vaughan, Wright, Bendel Clinic of Monroe, Louisiana (*American Journal of Roentgenology*, 42:285, Aug. 1939) report the use of Roentgen-ray therapy in acute catarrhal and suppurative otitis media and in chronic purulent otitis media. In the 31 cases of acute catarrhal otitis media treated, most of the cases

were seen in the first twenty-four hours; myringotomy was not done unless the temperature was over 99.6° F. or the drum was bulging with obliteration of the short process; only one treatment was necessary except in one case in which the condition "flared up" after it had completely subsided; the drum returned to normal in an average of 3.15 days in this group. In the 18 cases of acute purulent otitis media treated, myringotomy was done in 12 cases, the drum having ruptured spontaneously in 6 instances; 4 patients were given two treatments; one, three treatments; the others, one treatment. The discharge ceased and the drums became normal in an average of 8.16 days. In both groups pain was promptly relieved. In chronic otitis media (7 cases) from one to four treatments were given; the discharge was controlled and the hearing remained "fairly normal." The technique used has varied somewhat. The best method has been found to be the use of 85 kv., 5 ma., 16 inch target-skin distance and 1 mm. aluminum filter; in mild cases in infants the dosage has been 50 to 60 r., in other cases 60 to 100 r. In acute catarrhal otitis media, one treatment is usually sufficient; in acute purulent otitis, the intervals between treatments should be three to seven days if repeated treatments are necessary; in chronic cases, the interval should be ten days.

COMMENT

The question of the x-ray as a therapeutic agent has been discussed in the literature for a number of years. We have discussed this matter with many roentgenologists who agree with us that the main value of x-ray treatment is in eliminating lymphatic tissue. It is possible that the results mentioned in this paper were due to a decrease in lymphatic tissues in the Eustachian tube and possibly in the middle ear which allowed of better drainage. The comments that are made in this paper do not necessarily show that the x-ray treatment had anything to do with the subsidence of symptoms. For example, if an acute otitis media arises without temperature, it is always possible that the condition will clear up with the administration of simple remedies. Secondly, the eighteen cases of purulent otitis media treated would just as likely have gotten well without the x-ray treatment. We

do not wish to disparage this method of treatment too severely, but, at the same time, it should not be heralded as a cure-all or disastrous results may occur.

H.H.

Sulfanilamide Therapy in Acute Otitis Media and Mastoiditis

J. C. SCAL (*New York State Journal of Medicine*, 39:1790, Sept. 15, 1939) is of the opinion that sulfanilamide is too dangerous a drug to be given in "minor infections" such as tonsillitis and otitis media. In acute mastoiditis under sulfanilamide therapy, he has found that the temperature may become normal within twenty-four hours and toxic symptoms and tenderness over the mastoid disappear, yet the x-ray may show increasing destruction. At operation after sulfanilamide therapy for acute mastoiditis, marked cell destruction has been found; 12 illustrative cases are reported. From these findings, the author concludes that "sulfanilamide is contraindicated in early aural conditions"; in his opinion, in mastoiditis, sulfanilamide should be given after mastoidectomy, as such therapy improves the postoperative course, and prevents complications.

COMMENT

We do not quite agree with Scal that sulfanilamide therapy is contra-indicated in early aural conditions, but we do endorse the statement that he has made that this method of therapeutics will mask the symptoms to such an extent that dangerous results may arise. Although he does not think that this drug should be used in minor infections such as tonsillitis and otitis media, we feel that it is of much use in these conditions provided the patient can be watched carefully, preferably hospitalized so that daily blood counts can be made.

H.H.

Otitic Infections Due to the Pneumococcus Type III

J. L. MAYBAUM and J. DRUSS (*Archives of Otolaryngology*, 30:21, July 1939) present an analysis of 73 cases of pneumococcus type III infection of the ear seen at the Mt. Sinai Hospital, New York in 1929 to 1937. More than half these cases—38 or 52 per cent.—occurred in patients in the fifth, sixth and seventh decades of life, giving a

definite preponderance of this type of otitic infection in elderly patients. Pneumococcus type III otitis is not only relatively less frequent in children than in adults, it is also less virulent in children. Three clinical types of pneumococcus type III otitis are distinguished: 1. Prolonged insidious course with few or no physical signs followed by signs of mastoiditis or intracranial complications (18 cases). 2. Usual clinical course of middle ear infection followed by mastoiditis or intracranial complications (53 cases). 3. Short clinical course (two to five days) followed by intracranial complications (2 cases). In many of the cases the symptoms and the appearance of the ear drum were the same as in streptococcal ear infection; this indicates the importance of determining the infecting organism in every case of otitis. The development of acute mastoiditis or intracranial complication when the ear is resolving and aural discharge is diminishing or has ceased is characteristic of pneumococcus type III infection; or the symptoms may be slight without aural discharge at any time before the development of mastoiditis. A mucoid discharge from the ear was noted in only 2 cases. Marked impairment of hearing was noted in 46 of the 73 cases; the occurrence of pronounced impairment of hearing with the ear dry, the drum membrane only slightly thickened and the landmarks partly visible is suggestive of pneumococcus type III infection. Tenderness over the mastoid was noted in 49 cases, but in a considerable percentage of the cases this sign "was absent throughout." In 7 cases a subperiosteal abscess developed with "a more or less symptomless course"; all of these patients were adults. In general the roentgenological findings were not sufficiently characteristic to warrant a diagnosis of pneumococcus type III infection; the "mottled appearance" believed to be characteristic of bone destruction due to this infection was only rarely noted. Mastoidectomy was done in 69 cases; in a considerable number there were no characteristic changes in the bone differing from those in the usual type of mastoiditis; extensive bone destruction was noted in 41 cases. Marked softening of the bone or a mucoid exudate suggested the pres-

ence of pneumococcus type III in a number of instances. In the past seven years a specific vaccine was given in all cases of otitic infection as soon as the pneumococcus type III organism was demonstrated; in that period the incidence of complications was definitely reduced as compared with the previous years. In the entire series of 73 cases there were 12 cases of meningitis, usually occurring late, 13 cases of suppuration of the petrosa, 3 cases of thrombophlebitis of the sigmoid sinus, 3 cases of labyrinthitis and 2 cases of abscess of the temporal lobe. There were 14 deaths, a mortality of 18 per cent. In cases of pneumococcus type III infection otitis with mastoiditis, the authors advocate a complete mastoidectomy, and keeping the wound open to prevent advance of the process into the petrosa. The surgical procedures may be combined with the administration of sulfapyridine and serum. The authors state that they have had no experience with the use of sulfanilamide or sulfapyridine in pneumococcus type III otitis or meningitis, but consider that it has been es-

tablished that sulfapyridine is effective in pneumococcus infections. Prolonged observation of the patient after healing of the wound is important because of the possibility of late complications in pneumococcus type III infection of the ear.

COMMENT

This timely article is worth reading with great seriousness. It is seldom that one encounters ear infections with a pneumococcus type III. It is just for that reason that ear cultures should be carefully examined; for of all the virulent organisms which infect these parts, this one causes the most disastrous results because the symptoms are often masked or progress so rapidly that intracranial complications occur before anything is done.

A number of years ago, before we were in a position to carefully differentiate this type of bacteria, we were particularly anxious when the report from the laboratory came back if the discharge was caused by the Streptococcus mucosus capsulatus. Apparently this organism was a pneumococcus and probably in those cases it was a type III pneumococcus.

H.H.



Traumatic Torsion of the Ovarian Pedicle

H. SNEIERSON and J. SCHLESINGER (*American Journal of Surgery*, 45: 546, Sept. 1939) present a study of torsion of the ovarian pedicle, as seen at the Binghamton (N. Y.) City Hospital; the legal aspects of torsion due to trauma are considered by A. E. Gold, Justice of the Supreme Court, State of New York. At the Binghamton City Hospital, 221 cases of ovarian tumor were operated on in 1925 to 1936; more than 50 per cent. were simple cysts. There were 5 deaths in the entire series, all in

cases complicated by rupture or infection of the cyst or intestinal obstruction. There were 15 cases of torsion of the ovarian pedicle, with no deaths in this group. Torsion occurred most frequently on the right side (12 cases). In 9 of these cases of torsion, the tumor was a simple cyst, in 3 papillary cystadenoma, and in one a solid tumor. In 13 of these cases of torsion, there was no apparent cause for the onset of symptoms, but in 2 cases the onset of pain and other symptoms followed a definite trauma. In one case there was a history of a violent direct blow to the abdomen followed immediately by symptoms suggestive of internal injury; the pain became more severe and the patient vomited frequently, but there was no evidence of intestinal obstruction. At operation, torsion of an ovarian cyst was found, the circulation was impaired and the ovary filled with dark blood.

In this case, the authors believe that the trauma was not the direct cause of torsion, but caused hemorrhage or edema in the cyst with impairment of the venous return, the torsion being secondary. The authors are of the opinion that torsion of the ovarian pedicle following direct injury is always of this type, i.e., secondary to tissue injury and interference with the circulation, not that twisting of the pedicle occurs as a direct result of the injury "in the manner that a ball twists when struck on the side." In the second case, the injury was indirect due to a strain from lifting a weight; this was followed by pain on the right side which persisted "off and on," later by frequency and tenesmus; no fever. At operation the cyst was twisted two and a half times; but there was little impairment of the circulation; in this case there was probably only an "aggravation of the existing pathology" due to the strain. Both of these cases were accepted legally as caused by aggravated trauma. While direct trauma may cause a twisting of the pedicle in cases of ovarian tumor secondary to tissue injury, indirect trauma "cannot be accepted as the initiating cause of the condition but may aggravate a torsion already present." From a legal standpoint, "it is immaterial" which is the case; "legal liability may rest on either type of trauma."

COMMENT

Your commentator has had no experience with the law in relation to "traumatic torsion of the ovarian pedicle" but, of course, has operated upon many cases of ovarian cyst with twisted pedicle, with uniformly good results. Trauma of any kind could produce acute symptoms in the manner outlined by the authors; and it could indirectly cause the pedicle to twist; and consequently we must agree that "legal liability may rest on either type of trauma". Such papers are timely because they enlighten those doing compensation work who strive to be honest—both with employer and employee—which is as it should be.

H.B.M.

The Treatment of Dysmenorrhea with Testosterone Propionate

U. J. SALMON and his associates at Mt. Sinai Hospital, New York (Ameri-

can Journal of Obstetrics and Gynecology, 38:264, Aug. 1939) report the treatment of 30 cases of dysmenorrhea with testosterone propionate. Seventeen of the 30 patients were under thirty years of age; in all but 5 cases the dysmenorrhea had been present since puberty. The testosterone propionate was given intramuscularly in oil three times a week in doses of 10 to 50 mg. In some cases the testosterone was given throughout the month; in some, only during the first week of the cycle; in others beginning on the fifteenth or sixteenth day and continued to the beginning of the next menstrual period. Of the 30 patients treated, 22 had complete relief and 4 partial relief. During the period of observation of three to twenty-four months, 14 remained symptom-free, 10 for over six months; 8 showed recurrence of slight pain after two months. In cases in which menorrhagia was associated with dysmenorrhea, the excessive flow was reduced. The dosage employed in these cases varied widely. It was found that the administration of more than 500 mg. of testosterone propionate may cause either signs of masculinization, such as hoarseness of the voice, facial hirsuties, slight enlargement of the clitoris; or may temporarily suppress or delay menstruation or cause atrophic vaginitis. All these symptoms disappear within two months after discontinuing treatment. The full therapeutic effect in dysmenorrhea can be obtained with smaller doses. The authors recommend from 250 to 350 mg. in divided doses during one menstrual cycle; if only slight or no improvement is obtained, a second course is given in the following cycle; if definite improvement is observed the dose is decreased by half for the second course of treatment. With this dosage the authors have never observed any of the undesirable effects of androgen treatment. However, the vaginal smear is "a sensitive indicator" of overdosage of androgen, as regressive changes in the smear occur several weeks before any clinical signs of overdosage. The authors advise that vaginal smears be made twice weekly during treatment with testosterone as the tolerance of different women for androgen may vary.

COMMENT

Dysmenorrhea remains one of the enigmas of gynecology. The etiology of primary dysmenorrhea is often impossible to ascertain. When no other cause can be found, it is said to be "psychic"—but how can this be proven? Suffice it to say, however, that in testosterone propionate the clinician has another therapeutic agent for the relief of dysmenorrhea which, if he understands the technic of administration, is potent and harmless.

H.B.M.

Amenorrhea and Sterility; X-Ray Treatment

J. I. KAPLAN (*New York State Journal of Medicine*, 39:1380, July 15, 1939) reports the treatment of amenorrhea with small doses of high voltage x-rays (200 k.v.) to the ovaries and the pituitary, and in a few instances to the thyroid. The dosage was 75 to 150 r (measured in air) per field at weekly intervals for three weeks. Two anterior pelvic fields were treated the first week, two posterior pelvic fields the second week, the anterior fields again the third week; the pituitary field was treated at the same time as the anterior pelvis. There were 142 married women with amenorrhea treated; in 104 of these the pituitary as well as the ovaries were treated; the age of the patients varied from twenty-one to forty-five years. Menstruation was re-established in 124 cases; pregnancy occurred subsequently in 52 cases; in 17 there was more than one pregnancy. Five women aborted, 2 of them twice; 44 went to term and delivered 50 normal babies; there was one ectopic pregnancy, and one case in which the child was abnormal. Reports from the parents of the 50 living children, normal at birth, show "no abnormalities or physical deformities in these children."

COMMENT

That small doses of x-ray are beneficial to certain amenorrhea and sterility cases there can be no doubt. That "any and everybody" should not x-ray these patients there also can be no doubt. In the first instance excellent results can be obtained in the amenorrheas and in a fair proportion of the sterility cases. In the latter instance, a few successes and many failures, with an occa-

sional permanent amenorrhea, may be expected. A thorough knowledge of endocrinology coupled with its clinical manifestations is a prerequisite to successful treatment of these cases.

H.B.M.

Endometrial Biopsy and the Uterine Index

J. V. MEIGS (*American Journal of Obstetrics and Gynecology*, 38:161, July 1939) reports that in the study of endometrial specimens removed from the uterine cavity, it was found that the specimens obtained do not always correspond with the date of the cycle. It is evident that the uterus does not always "respond perfectly to its ovarian stimulation." It is important, therefore, to have some method of determining whether there is any underdevelopment of the uterus that might cause such imperfect response. For this purpose the "uterine index," described by S. R. Meeker as an indicator of the proportionate development of the cervix and uterus, has been found most useful. The formula for this index is

$$\frac{1}{2} \frac{\text{(uterus minus cervix)}}{\text{cervix}} = \text{Index,}$$

which normally is 1; Meeker states that any index below 0.60 indicates definite hypoplasia or underdevelopment of the uterus. The instrument (hystrometer) used for determining the uterine measurements necessary has been "redesigned" by the author and his associates at the Massachusetts General Hospital. It is an ordinary uterine sound "measured off" in centimeters, with a finely coiled spring so that "the sliding part can negotiate the curve of the sound." The instrument is introduced into the cervical canal and the first measurement read when obstruction is met at the internal os; the instrument is then advanced until it reaches the fundus and the second measurement read and recorded. This gives the length of the cervix and the length of the entire uterus for incorporation into the formula to determine the uterine index. The degree of development of the uterus may be roughly determined from the measurements without the use of the index, on the basis that in the normal uterus the length of the body of the uterus is

approximately twice that of the cervix. Biopsies are obtained with the same instrument by using a curette which is smaller than the knob at the end of the sound and thus passes easily. Two specimens of endometrium are obtained, one from each side of the uterus, and these two specimens have rarely been found to vary microscopically. This instrument has been used in a study of amenorrhea, dysmenorrhea, sterility and abnormal bleeding, a report of which is to be published later. The trauma associated with passing the hystrometer and curette and taking the biopsy specimen causes a moderate amount of pain "similar to a uterine cramp"; but this passes off in a few minutes and the patient feels no further discomfort. The patient should be told that slight bleed-

ing may occur for two to four days, which should not be mistaken for a menstrual period; if the biopsy is done near the time of an expected menstrual period "the flow may be started" and true menstruation follow.

COMMENT

Endometrial biopsy has become routine in any scientific study of menstrual disorders due to endocrine dyscrasia. Such procedure, of course, should never be used in the diagnosis of corpus cancer. We have never used the hystrometer but, because of what the author says of the diagnostic help this instrument affords, we should begin its use. There is need for more such studies since the problem of menstrual disorders and their bearing on sterility is still, in many cases, in a most confused state.

H.B.M.



Influence of Iron and Diet on the Blood in Pregnancy

F. H. BETHELL, S. H. GARDINER and F. MacKINNON (*Annals of Internal Medicine*, 13:91, July 1939) report a study of the blood counts in relation to diet in 158 pregnant women, in most of whom examinations were made six weeks after delivery as well as during pregnancy. The subjects of this study were women attending the out-patient maternity service of the University of Michigan Hospital and represent "a fair cross-section of medium and low income groups." Approximately two-thirds of these women had had one or more children, and no relation was found between parity and incidence or severity of anemia. From their study of this group, on the basis of return to normal red cell and hemoglobin value within six weeks after delivery, the authors consider a red cell count of less than 3,500,-

000 and a hemoglobin value of less than 10 gm. per 100 c.c. at any time during pregnancy as evidence of a definite anemia. Two types of anemia in pregnancy are distinguished—an iron deficiency anemia and a diet deficiency anemia. The iron deficiency anemia is characterized by hemoglobin below 10 gm. per 100 c.c., mean corpuscular hemoglobin below 26 micro-micrograms, color index below 0.9. The diet deficiency anemia is characterized by red blood cell count below 3.5 million, mean corpuscular volume above 97 cubic microns, volume index above 1.1. This diet deficiency anemia has been found to be associated with an inadequate intake of animal protein rather than deficiency of the vitamin B complex. Of the 158 cases studied, 42, or 26.6 per cent., showed iron deficiency anemia; 24, or 15.2 per cent., diet deficiency anemia; 19, or 12 per cent., a combined deficiency anemia. Of the 42 women with hypochromic anemia, 19 were given ferrous sulphate (0.32 gm. three times daily), 23 no iron therapy. In the treated group, the red cell count and hemoglobin were at normal levels six weeks after delivery, while in the untreated group, the average hemoglobin values were 2.6 gm. below those of the treated group. In 50 women with blood

values within the normal range for pregnancy, according to the authors' standards, 27 were given ferrous sulphate and 23 no iron. Six weeks after delivery the average hemoglobin value for the treated group was only 0.3 gm. higher than that for the untreated group, but there was a wider divergence of the hemoglobin values in favor of the treated group on the tenth day postpartum. In 25 women with macrocytic anemia, 6 were given diet therapy and no iron, 7 no form of therapy, 7 diet therapy and iron, 5 iron, but no diet therapy. There was a significant increase in the red cell and hemoglobin values in all cases in which an improved diet was enforced, especially with respect to increased intake of animal proteins; iron alone had no definite effect in this series of cases; but when iron was given with the improved diet, the rate of increase of both red cells and hemoglobin was more uniform than with the diet alone. From these findings, the authors conclude that anemia of pregnancy most frequently results from deficiency or impaired utilization of iron; since the detection of slight degrees of iron deficiency in pregnancy is difficult, and the majority of pregnant women appear to benefit from iron medication, it is justifiable to give iron routinely throughout pregnancy, preferably in the form of inorganic ferrous preparations. Macrocytic anemia in pregnancy is an indication for increasing the animal protein intake; for macrocytic anemia of moderate degree 50 gm. of animal protein daily in addition to adequate amounts of other "protective" foods is sufficient; in severe macrocytic anemia this intake must be increased. A combined type of anemia may be present in pregnancy, in which an adequate animal protein intake and iron are both necessary.

COMMENT

Bethel and his co-workers have rendered yeoman service to obstetricians in their studies of the anemias of pregnancy and what to do about them. Physicians doing obstetrics, as well as specialists, have, up to now, paid very little attention to the "blood picture" during pregnancy and immediately postpartum. A study, therefore, such as the authors present here, is of inestimable value because of the general practical application.

General practitioner and/or specialist can carry out the therapeutics recommended. The diagnosis, too, is easy, since any one who can make a blood count has the diagnosis immediately. Of course, the 15.2 per cent of the group herein reported, whose diet was insufficient, might present a problem for the physician in certain localities. However, even in the very poorest community, I imagine that this item could be provided—say, by the several charitable organizations existing in most communities. Failing in these, the ever present and reliable Red Cross could be called in. We should have more such usable therapeutic measures. If you do obstetrics you should read and re-read this article.

H.B.M.

Water Exchange and Salt Balance in Hyperemesis Gravidarum

F. L. McPHAIL (*American Journal of Obstetrics and Gynecology*, 38:305, Aug. 1939) notes that the blood chemistry findings reported by various investigators show that in mild cases of vomiting in pregnancy, there is a diminution of the plasma chlorides; as the vomiting persists and becomes more severe, the reduction in plasma chlorides is marked and there is also nitrogen retention. Mild vomiting occurs in about 50 per cent. of pregnant women, but these patients should be treated to prevent hyperemesis gravidarum. Since there is a loss of body chlorides, the chlorides should be replaced. In these cases this is best done by giving salt (sodium chloride) in a gelatin capsule holding 1 gm. This amount of salt taken daily with approximately two-thirds of a glass of water will replace the chlorides lost. In addition sufficient water must be ingested to maintain an adequate urine output. Salt is well retained if given in capsule form; patients are instructed to eat small, low fat meals frequently. With this treatment, if started early, the development of persistent, severe vomiting can usually be prevented. If true hyperemesis gravidarum has developed, the chlorides must be replaced by following Coller's formula (*Ann. Surg.*, 108:789, 1938), using intravenous injections of normal saline. Glucose in 5 per cent. solution must be given in sufficient amounts to restore normal renal function. In the author's experience rapid

improvement has followed this method of treatment. The improvement is maintained by giving an adequate amount of salt and water "to satisfy the daily requirement."

COMMENT

"The earlier the diagnosis the more successful the treatment" certainly applies in the nausea and vomiting of early pregnancy. Chlorides are lost from the body in direct proportion to the amount of vomitus expelled, therefore it is perfectly rational to supply extra chlorides in such cases. The author's technic is sound, practical, and actually works in the vast majority of cases. Your commentator has used this idea for years and has very rarely (almost never) had, in recent years, to interrupt an early pregnancy for hyperemesis gravidarum. Try it on YOUR next case.

H.B.M.

Streptococcus Viridans *Endocarditis in Pregnancy*

E. W. PAGE and J. V. CAMPBELL (*American Journal of Obstetrics and Gynecology*, 38:97, July 1939) note that 15 cases of subacute bacterial endocarditis during pregnancy have been reported in which the *Streptococcus viridans* has been isolated. There has been considerable difference of opinion as to the management of pregnancy in these cases, and in some instances the diagnosis was confused with pyelonephritis or puerperal sepsis. The authors report 3 cases of this type of endocarditis occurring in pregnant women and tabulate all the reported cases including their own. Over half of these 18 patients gave a definite rheumatic history, although only one-third had recognized heart disease at the beginning of the pregnancy. The onset of the endocarditis was usually in the latter half of pregnancy and 12 of the 18 patients progressed beyond the seventh month; of the 12 viable infants, 10 survived; all the mothers died within six months after delivery. In one of the authors' cases the endocarditis developed early in pregnancy and the patient aborted spontaneously at three months, dying immediately after. In one case the patient delivered spontaneously at six and a half months; the fetus was living but died in a few hours; the mother died ten days later. In the third case the patient went into labor spontane-

ously a month before term; the child lived and gained well, but died at the age of seven months from acute enteritis. The mother died one month after delivery. Subacute bacterial endocarditis due to *Streptococcus viridans* may be mistaken for pyelonephritis in pregnancy, or for puerperal sepsis if the disease develops after abortion or delivery. The blood culture and signs of cardiac failure indicate the correct diagnosis. Pregnancy is not of etiologic importance in bacterial endocarditis, but it does seem to hasten the progress of the disease, probably because of the markedly increased cardiac output in pregnancy and "because of the circulatory burden associated with delivery or operative intervention." Although streptococci are present in the blood, localized pelvic sepsis does not occur in the puerperium in patients with bacterial endocarditis, probably because of their high resistance to the organism. The lochia, however, contain the organism, and "the presence of such a patient on a maternity ward is hazardous." Interruption of pregnancy is not advisable in these cases and every effort should be made to carry the patient through pregnancy until the infant is viable, as most of these infants survive.

COMMENT

Fortunately, subacute bacterial endocarditis due to the *Streptococcus viridans* is very rare. I recall having seen but one case in 20 years. In this the mother and baby both died—the baby in a few hours; the mother 2 months later. Truly a catastrophic lesion! The lochia, which, of course, contains the organisms, renders the parturient infectious and therefore she should never be put on the "clean" maternity floor. Another good reason for an isolation department (not a partitioned corner on the maternity floor) for every maternity hospital, pavilion or department.

H.B.M.

Spinal Anesthesia in *Cesarean Section*

W. LÜTTGE (*Zentralblatt für Gynäkologie*, 63:1510, July 8, 1939) notes that while the technique of Cesarean section has been much discussed in recent years, little is said about the anesthesia to be used. While inhalation appears to be generally used in German clinics, the

author finds that the Erlangen University employs spinal anesthesia. The author has used inhalation anesthesia in 102 cases of Cesarean section, spinal anesthesia with tropococaine (1½ c.c. of a 10 per cent. solution) in 105 cases. The uncorrected maternal and infant mortality was much the same in each group, but the incidence of asphyxia in the child was much reduced in the spinal anesthesia group. The advantages of spinal anesthesia are: No period of excitation, intestines quiet and relaxed, no postoperative vomiting, good condition of the child. The value of spinal anesthesia in Cesarean section lies chiefly in the fact that the anesthetic reaches only the nerve ganglia; it does not enter the blood stream of the child.

COMMENT

Spinal anesthesia, for those who prefer it, is an excellent anesthesia. It is a very dangerous anesthetic for the "occasional" administrator. Your commentator has had one death and one near-death (blood pressure suddenly dropped 80 points), both spinal given by experts, and he is therefore not over-enthusiastic over spinal anesthesia. We do use it, but not routinely, much preferring local-block anesthesia, which we feel certain is much safer and about as satisfactory in every detail when proper selection of the case and thorough knowledge of the technic of administration are strictly adhered to. We believe local or local-block anesthesia will eventually practically displace all other forms of anesthesia in obstetrics, except in a few cases where there are contraindications to its use.

H.B.M.



CANCER

—Concluded from page 521

flat on percussion with diminished breath sounds and spoken voice. The abdomen presents some resistance on pressure over the upper right side. He returns to the hospital for deep x-ray therapy with no apparent benefit save the absence of hemoptysis. Prognosis is grave."

*The patient died July 22, 1939, three months from the beginning of clinical symptoms.

Comment

1. The above case of lung cancer is of interest because it is an illustration of the fact that the physician must be ever aware of the relatively high incidence of cancer of the lung.

2. This case again illustrates the fact

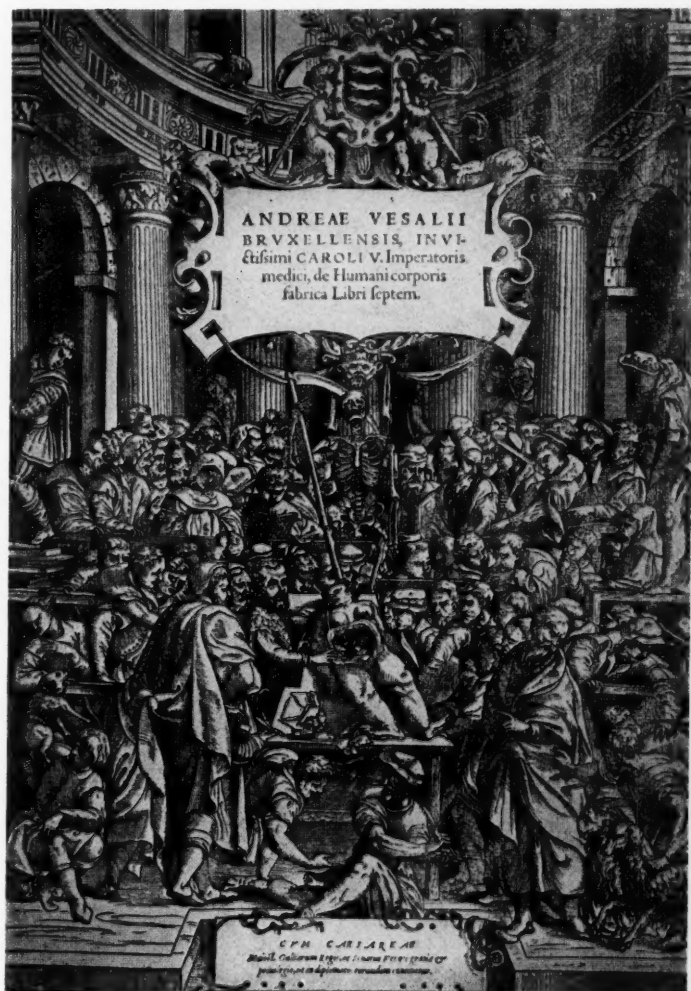
that, as in the majority of cases of lung cancer, the disease when first observed by the physician is, unfortunately, so far advanced that only palliative treatment can be offered.

3. The diagnosis of a highly malignant, undifferentiated cell type growth with metastases is warranted because this type of tumor causes lymphangitic carcinomatosis of a wide area of the lung with pleural exudate, and if bulky metastases to the mediastinal lymph nodes are present also causes pressure symptoms.

4. X-irradiation for cancer of the lung is of doubtful value. It is the belief of some physicians that instead of improvement x-ray therapy once instituted in a case of primary carcinoma of the lung seems to act as a stimulant to the growth of the tumor.

38-30 DOUGLSTON PARKWAY.

CULTURAL MEDICINE



Frontispiece of Fabrica of Vesalius from the Second Edition published in 1555

MEDICAL BOOK NEWS

• All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, N. Y.

Edited by Alfred E. Shipley, M.D., Dr. P.H.

Social Factors in Illness

THE PATIENT AS A PERSON. A Study of the Social Aspects of Illness. By G. Canby Robinson, M.D. New York, The Commonwealth Fund, [c. 1939]. 423 pages. 8vo. Cloth, \$3.00.

The founder of the institution known as Hospital Social Service was the master clinician, Richard A. Cabot. The subject of this review is a presentation of what can be accomplished in a medical clinic by the application of the principles of this service. It is given to us by Dr. G. Canby Robinson, now at Johns Hopkins Hospital, and well known as a research cardiologist, clinician, and educator. This assures an objective approach to the subject, and lends weight to conclusions which involve important medical implications.

The abstracts of one hundred and seventy-four case records from the dispensary and medical wards of the hospital are presented, with special reference to the bearing of the social studies carried out. The records are considered statistically, and provide material for some interesting observations.

In 71% of the patients studied some adverse social condition was definitely related to the illness in a causal relation-

ship, and in 26% the social difficulty constituted the main etiological factor. These figures are quite similar to those of Miss Thornton of the Presbyterian Hospital in New York. The adverse social conditions encountered were divided, according to Thornton's classification,

into disturbances of subsistence, i.e., the loss of work, insufficient clothes, food, etc., and disturbances of satisfaction. The latter term covers personal maladjustments which often caused emotional disturbances sufficiently severe to bring about or aggravate illness. Thirty-nine per cent had disturbances of subsistence and of satisfaction, 30% of subsistence alone, and 11% of satisfaction alone. Some of these disturbances had no relation to the illness complained of. Of course these figures cannot be applied to illness in general. They are based on an automatically selected group of underprivileged individuals.

In reading over story after story of this person or that in difficulty, one is struck by the frequency with which some non-medical ad-

justment changed for the better the whole situation, including the physical condition. Even in the case of the psychoneurotics, of whom there were many,



Classical Quotations

• I thought that only a sudden, progressively increasing disturbance in the nutrition of the heart itself such as a cutting off of the supply of nourishment could produce such changes as this case showed, and that such an obstruction could be produced only by a thrombotic occlusion of at least one of the coronary arteries. For lack of ground for any other satisfactory explanation, I was carried away by this thought . . . I mentioned my conviction to my colleague at the bedside. He, however had a nonplussed expression and burst out "I have never heard of such a diagnosis in my whole life," and I answered "Nor I also."

Adam Hammer.
A Case of Thrombotic Occlusion of One of the Coronary Arteries of the Heart.
Wien Med. Wchnschr. 28:102, 1878.

YOU may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the **MEDICAL TIMES**, 95 Nassau Street, New York, N. Y.

it was found necessary to ask for special advice from the psychiatrists in only seven instances. Many times simple explanation and moral or physical aid in straightening out social maladjustments were quite successful. There were failures enough in the series to be reassuring. These included a certain number who did not want help and who were presumably tactfully dropped. Such intimate investigations as are implied in these studies suggest rather alarming possibilities were the system to be greatly extended (which would be fine) and mechanized (which God forbid). Government control, through state and federal subsidies, might tend toward the latter.

Perhaps it is unfair to dwell on the possibilities of the abuse of such a beneficent instrument as modern social service in the hospital. Dr. Robnson's book successfully proves the thesis that there are many illnesses which no narrow medical attitude can successfully overcome. It becomes clear that hospitals should supply the machinery for adequate social as well as medical investigation. Finally comes the significance of the title of the book, which is indeed clear from the start. That only by such an approach can maximum maintenance of health be secured, is urged as an attitude of particular importance to medical educators.

TASKER HOWARD.

May's New Edition

MANUAL OF THE DISEASES OF THE EYE FOR STUDENTS AND GENERAL PRACTITIONERS. By Charles H. May, M.D. Sixteenth edition. Baltimore, William Wood and Company, Inc. 1939]. 515 pages, illustrated. 12mo. Cloth, \$4.00.

MEDICAL TIMES, NOVEMBER, 1939

When one realizes that the present volume of "May" is the sixteenth edition of this remarkable little work, it seems hardly necessary to review the book. Moreover, there have been eight British editions, nine Spanish, six French, six Italian, six Dutch, two German, two Japanese, three Chinese, and one Portuguese. As is his custom, Dr. Charles H. May has not only improved each edition by keeping the text up to date, but has added and improved the numerous illustrations.

There are two distinct uses for a book of this nature—as a quiz-book for the medical student, and as a quick reference book for the general practitioner. The particular arrangement of a work of this kind for the latter purpose is not so important as for the former. The teaching curriculum in the medical schools has been rearranged quite radically in the last few years with the result that an effort is made to instruct the students in the recognition of ocular diseases and in the use of the ophthalmoscope, the perimeter, etc. as a diagnostic aid in general medical problems. Instruction in refraction and ophthalmic major surgery is usually omitted from the course. Those divisions of the subject are placed in an elective course for those who may need some knowledge of the subjects because of rural practice, or medical missionary work. The arrangement of "May" is particularly well adapted to both purposes, because the chapters dealing with refraction and ocular surgery are placed in the last one hundred and fifty pages of the book. The reviewer recommends this book unservedly.

JOHN N. EVANS.

A Public Health Handbook

HEALTH OFFICERS' MANUAL. General Information Regarding the Administrative and Technical Problems of the Health Officer. By J. C. Geiger, M.D. Philadelphia, W. B. Saunders Company, Inc. 1939]. 148 pages, illustrated. 12mo. Cloth, \$1.50.

This is a complete manual for health officers. It deals with ordinary problems and with organization and administration of a health department.

Some of the activities described are not grouped under health administration in certain states, such as: building inspection, tuberculosis, mosquito control,

general hospitals, social service and others. Best results are obtained by close cooperation between different departments where they are maintained separately.

With health organizations, as outlined in the manual, there seems to be a considerable excursion into the field of socialized medicine and some infringement on the prerogatives of the private practitioner.

Plans have been satisfactorily worked out whereby free choice of physician is maintained thereby avoiding the establishment of so many clinics as is suggested in the manual.

ARTHUR D. JAKUES.

Modern Cardiology in Brief

HEART PATIENTS. Their Study and Care. By S. Calvin Smith, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 166 pages. 8vo. Cloth, \$2.00.

This small book discusses the main facts about diseases of the heart presenting the older teachings and an account of some of the newer methods. The author states that as the result of his experience there are several outstanding truths which might be called his "Cardiac Aphorisms" and their tenor dominates the pages of the book. These are that the heart is more sinned against than sinning, heart protests are not always heart disease, the muscle is of more importance than the murmur; the rhythm is of more importance than the rate, and that heart, mind and spirit are inseparable companions in treatment.

Necessarily in so small a book many subjects are quickly passed over, but much of value is presented, especially for those whose work is of general nature.

WILLIAM E. MCCOLLOM.

A New Edition of Rhinology

DISEASES OF THE NOSE AND THROAT. By Charles J. Imperatori, M.D. and Herman J. Burman, M.D. Second edition. Philadelphia, J. B. Lippincott Company, [c. 1939]. 726 pages, illustrated. 8vo. Cloth, \$7.00.

This second edition well surpasses the recent first edition. It is up to date in all respects, and includes bronchoscopy and esophagogastrosocopy. The background and experience of the authors, especially in clinical teaching, is reflected in the excellent arrangement and presentation of

their material. For the student, the general practitioner and the less experienced rhinolaryngologist, it is a ready reference for clinical purposes.

The authors present symptoms, diagnosis, and treatment first, and include laboratory practices. They then discuss causes and pathology at length with considerable microscopic representation.

The development, anatomy, and physiology as well as methods of examination and treatment appropriately conform to the parts under consideration. Allergy, surgery, x-ray sinus diagnosis, and radiation therapy are well presented, the latter two by Drs. F. M. Law and Ira I. Kaplan respectively, each eminent in his field.

The book has an abundance of illustrations of equipment, surgical setups, surgical procedures schematically portrayed, examination views, x-ray negative pictures, anatomic and pathologic drawings and microphotographs. Printing and style are excellent.

CHARLES R. WEETH.

The Action of Sulfanilamide

THE CLINICAL AND EXPERIMENTAL USE OF SULFANILAMIDE, SULFAPYRIDINE AND ALLIED COMPOUNDS. By Perrin H. Long, M.D. and Eleanor A. Bliss, Sc.D. New York, The Macmillan Company, [c. 1939]. 319 pages. 8vo. Cloth, \$3.50.

It is the first and at present the only book on this subject. The authors have had wide experience in both experimental and clinical use of sulfanilamide, sulfapyridine, neoprontosil and allied compounds. They present the facts known to date in a thorough and complete manner. They stress experimental knowledge and clinical applications, and explain in detail the mode of action of sulfanilamide, its derivatives and toxic manifestations, both experimental and clinical. It is a timely book, interesting, valuable and easy to read. It has an extensive bibliography containing the historical, experimental and clinical uses of sulfanilamide and its derivatives.

This book will be well received by students, investigators and practitioners of medicine because of the great value of chemotherapy and its increasing importance in the treatment of, not only streptococci infection but many other types of infection.

EUGENE R. MARZULLO.

Science and Society

THE SOCIAL FUNCTION OF SCIENCE. By J. B. Bernal, F.R.S. New York, The Macmillan Company, [c. 1939]. 482 pages. 8vo. Cloth, \$3.50.

Professor Bernal of the British Association of Scientific Workers has written a book which, in spite of the fact that it is difficult and often dull reading, contains much of interest to physicians as well as other scientists. It may be read with profit by all who are interested in the relation of scientific research to society, state and the "good life." Bernal points out the goals of science (not as Utopian as they seem at first glance) and explains the failure of society to realize them, or even to make a serious attempt to realize them, on the fact that science has been used primarily to make profits and not to satisfy human wants and needs.

There is an excellent survey of the status of research in most civilized countries and of the obstacles placed in the way of scientists by their superiors, their own limitations and their milieu. There will be no quarrel with his thesis that planned research and experiment could do much to heal some of the ills of mankind. The solution he proposes, however, which would be impractical except under a totalitarian organization of society, will cause many misgivings to American scientists. Nevertheless, the book is provocative, suggestive and stimulating.

MILTON PLOTZ.

Anatomy for the Student

GROSS ANATOMY. A Brief Systematic Presentation of the Macroscopic Structure of the Human Body. By A. Brazier Howell. New York, D. Appleton-Century Company, [c. 1939]. 403 pages, illustrated. 8vo. Cloth, \$6.00.

This is a concise textbook on gross anatomy which emphasizes the important underlying principles that are fundamental to the student. Details as to origin and insertion of muscles and ramifications of the neurovascular tree are eliminated except when necessary to correlate their relations, which may be of clinical importance. It is the work of a masterful teacher who appreciates the difficulty in orienting students with descriptive matter which is only to be used for reference.

It is regrettable that there are so few of the author's excellent line drawings to illustrate the text. More line draw-

ings would have considerably enhanced this valuable treatise by enabling the student to visualize the text which has been presented concisely and yet thoroughly. Nevertheless, this book is highly recommended to the student as a closely knit condensation of facts of the basic principles of all the systems of the body.

IRWIN E. SIRIS.

Uterine Physiology

PHYSIOLOGY OF THE UTERUS. With Clinical Correlations. By Samuel R. M. Reynolds, M.A. New York, Paul B. Hoeber, Inc., [c. 1939]. 447 pages, illustrated. 8vo. Cloth, \$7.50.

This book actually fills a need. A logical sequence of the discovery of the new hormones, it is the first connected account of what is known of the physiology of uterine muscle. Dr. Reynolds, associate Professor of Physiology at the Long Island College of Medicine, is extraordinarily well qualified for this work as an anatomist and physiologist. He has made important contributions in research himself. Clinical correlations are noteworthy. The physiology of the uterus at term, the factors concerned in the onset of labor, the logical treatment of missed abortion, and threatened abortion are discussed. Hormone therapy is rationalized and summed up. The text is engagingly written, and the book is an excellent example of fine typographical work.

To the gynecologist and obstetrician this book is really priceless; it will help them to a better understanding of the physiology of labor, and will point the way directly to the solution of problems in clinical investigation.

CHARLES A. GORDON.

Glaister's Legal Medicine

GLAISTER'S MEDICAL JURISPRUDENCE AND TOXICOLOGY. Edited by John Glaister, M.D. Sixth edition. Baltimore, William Wood & Company, [c. 1938]. 747 pages, illustrated. 8vo. Cloth, \$8.00.

This excellent, complete, and concise volume has been brought up to date with advantage. Although it is of English origin, and reference, necessarily, is made to English and Scottish law, the book covers so many branches of forensic medicine and so many scientific aspects that it is of definite value to the American reader. Such differences in law that do exist, do not detract, but rather add to

its interest.

Of value both to medical examiners, police authorities, and the general practitioner in these days of modern scientific crime detection is the material in several chapters. To mention a few of these topics—there are interesting treatments of the subjects of identification of the living and dead by finger prints; examination and tests of blood stains, hair, fibres; signs and causes of death. The work contains a broad and comprehensive consideration of special medicolegal aspects of death from causes which usually form the subject of criminal investigation, such as drowning, strangulation, burning, exposure, etc.

The medical and legal aspects of sexual crimes are dealt with in an excellent manner. Alienists and jurists can read with advantage the chapters on states of insensibility, lunacy, aphasia, and criminal responsibility. The subject of toxicology is adequately and commendably treated. Food, vegetable, and insect poisoning are considered. A chapter on war gases is of up-to-the-minute interest.

An excellent section discusses the testing for and treatment of a most comprehensive number of poisons not usually found in ordinary texts.

JOSEPH A. MANZELLA.

A Eugenical Study

POPULATION, RACE AND EUGENICS. By Morris Siegel, M.D. Hamilton, Ontario, Canada, 546 Barton St. East, The Author, [c. 1939]. 206 pages, 8vo. Cloth, \$3.00.

The author presents the problem now engaging the attention of students of eugenics, namely, that of inadequate reproduction in individuals who belong to the upper cultural groups, and the fertility of other groups amongst whose children it is comparatively rare to find culture and intellectual ability. Other recognized studies have noted the definite correlation between the cultural intellectual abilities of parents and offspring. Should this tendency go on unchecked, in a few generations the average level of intelligence of man would be considerably lowered. The author makes a careful analysis of the underlying causes of this serious discrepancy in fertility between the two groups, and offers constructive recommendations.

In the fourth chapter he devotes con-

siderable space to the timely subject of racial theories in relation to eugenics, and discusses the origin of the myth of Nordic or Aryan superiority by Gobineau along with the later work of H. S. Chamberlain, who was the first and foremost amongst race theorists to pervert scientific facts for political or super-national purposes. He discredits the evidence that racial crossing leads to rare degeneracy.

The second part of the book is concerned with restrictive eugenics. The author discusses in detail the various phases of the relationship of feeble-mindedness, mental disorders and epilepsy to eugenics, and advises such restrictive measures as education, restrictive marriage, segregation and sterilization. Dr. Siegel calls attention to the work of the modern obstetrician in advocating emphatically the need of prenatal care, and shows its great value in aiding the probabilities of reproduction of more normal individuals.

The book is clearly and simply written. The author is a physician who appears to have a comprehensive knowledge of his subject, and presents it from a medical point of view. It will afford the average doctor an opportunity to more adequately evaluate the recently advanced or resurrected racial theories, and is recommended to the medical profession.

ALEXANDER H. ROSENTHAL.

Prostatism for the Layman

FEEL LIKE THIRTY AT FIFTY. Renewed Vigor Through Gland Hygiene. By Edwin W. Hirsch, M.D. Chicago, Research Publications, [c. 1939]. 116 pages. 16mo. Cloth.

This booklet is dedicated to the general practitioner, but it is written for the layman. It contains information about the structure and function of the male sexual organs. There are errors, but we do not think they matter, because the final advice to the patient is always medical consultation. The author thinks that "the secret of rejuvenation essentially consists in keeping the prostate in a normal state." He is also partial to the theory that a good prostate is an empty one.

There is something to be said for the attempt of informing the layman about prostatitis and prostatic hypertrophy, but we think that one should be very careful in doing so. Catchy phrases, as

in the title, and therapeutic optimism should be avoided.

HEINRICH L. WEHRBEIN.

Beaumont's Biography Reprinted

LIFE AND LETTERS OF DR. WILLIAM BEAUMONT. By Jesse S. Myer, M.D. St. Louis, The C. V. Mosby Company, [c. 1939]. 327 pages, illustrated. 8vo. Cloth, \$5.00.

It is with great pleasure that we greet the re-printing of Dr. Myer's life of Beaumont. Out of print for some time the first edition of this interesting and valuable biography of a pioneer American physiologist was already becoming rare. For this reason, the publishers are to be highly commended for their decision to reprint the book at this time. The story of Beaumont and his human guinea-pig, St. Martin, is known to practically every American physician and student of medicine, but William Beaumont the man is probably a somewhat more shadowy figure. It is only by seeing a man's work within the framework of his life that his true greatness is to be recognized. In the case of Beaumont this is most easily achieved by a perusal of this biography. It is heartily recommended and should find a place in the library of every physician.

GEORGE ROSEN.

A Viewpoint of Man's Functioning

THE ORGANISM. A Holistic Approach to Biology Derived from Pathological Data in Man. By Kurt Goldstein, M.D. New York, American Book Company, [c. 1939]. 533 pages. 8vo. Cloth, \$4.00.

This is an interesting book—interesting because all speculative thinking is interesting. Dr. Goldstein is an avowed holist, one to whom neither psychology in itself nor anatomic-physiologic viewpoints alone can solve the problems of life. Man is compounded of both. Physiological aptitude is already contained in his structure, and mental operations are reactions in the same sense as the commonest reflexes. We cannot separate the mental from the physical. A disease, for instance, is not only a physical lowering of one's "performance" ability, but the organism as a whole suffers in other respects, in thought processes as well. Thus the holistic approach is a sort of philosophy of the individual's functioning in general. All reactions or reflexes must be conceived as primarily behavioristic in function. Animal and man strive

for a preferred behavior. The mechanism for preferred behavior is prearranged, and all living things exhibit an inward and unconscious striving after a state of complete harmony and ease. This, it appears, would correspond very closely to the pleasure-pain principle of Freud, according to which any activity is felt as a "strain" which calls for "release." A do-nothing existence would be equivalent to complete happiness. If a comparison is justifiable, one may say that the holistic principle applied to phenomena of life is a sort of 4th dimension. In physics, time is the new element, in holistic thinking, the element of "wholeness" is introduced. The book is ably written, is packed with information, and invites serious reflection.

JOSEPH SMITH.

Stories of Dublin Medical Students

TUMBLING IN THE HAY. A novel by Oliver St. John Gogarty. New York, Raynal & Hitchcock, [c. 1939]. 329 pages. 8vo. Cloth, \$2.50.

This book is included in the classification of "Novels" on the title page, but it develops into a collection of anecdotes and incidents in the lives of the medical students of Dublin about a generation ago. Unfortunately it produces an impression of irresponsibility and lack of seriousness on the part of these students. There seems to be more "Tumbling in the Hay" than is the lot of most medical students, the "Hay" being a rowdy hotel and hang-out.

As might be expected from the author of *As I Was Going Down Sackville Street* and *I Follow St. Patrick*, there is a rich fund of Irish wit and humor, though some of this may be a little thick for the American reader. Dr. Gogarty is on familiar terms with the English classics—not to forget his Latin and Greek references—and makes the teller of the tales somewhat of an autobiographical agent.

JOSEPH RAPHAEL.

Another "Cancer Cure"

THE CHEMISTRY OF NATURAL IMMUNITY. By William F. Koch, M.D. Boston, The Christopher Publishing House, [c. 1938]. 199 pages, illustrated. 8vo. Cloth, \$2.00.

The title of this book suggests that its contents might be well worth reading. A brief perusal is sufficient to disillusion

even the most careless reader as to any such preconceived ideas, and to indicate clearly the purposes of the writer. After some fourteen pages of introduction in the form of a rebuttal by a D. H. Arnott condemning the medical profession for its tendencies to cast aside new discoveries without granting benefit of careful investigation, the author proceeds to give an involved physiologico-chemical explanation of the rationale behind his marvelous discovery. "Glyoxylide," a "ketenone" otherwise known as the "Detroit Cancer Cure" has been found of use also in the treatment of coronary thrombosis, psoriasis, poliomyelitis, epilepsy, dementia praecox, shingles, allergy, tuberculosis, etc. ad lib. The theoretical explanation most successfully beclouds the issue, nay might even create in the mind of the casual reader an inferiority complex based on his inability to fathom out the significance of the jumbled "would-be-scientific" data. Following this is the usual "before and after" picture-gallery of cures.

The book is dedicated "to the many physicians . . . who have contributed to

the clinical success of the work, meeting . . . an adverse professional situation with courage." In the reviewer's opinion, the author needed real "courage" to presume that an enlightened profession could accept this treatise.

GEORGE E. ANDERSON.

More International Clinics

THE NEW INTERNATIONAL CLINICS. Original Contributions: Clinics; and Evaluated Reviews of Current Advances in the Medical Arts. Edited by George M. Piersol, M.D. Volume II, New Series 2. Philadelphia, J. B. Lippincott Company, [c. 1939]. 8vo. Cloth, \$3.00.

The latest volume of this excellent series is again worth reading carefully. Particularly useful are brief papers on diabetes by Wilder and Duncan; a remarkable review of the important and non-important in the diagnosis and treatment of anemia by Wintrobe and several articles on vitamins in relation to clinical medicine. One of the best in the volume is Clerf's full review of peroral endoscopy.

The present series of papers can be warmly recommended to the general medical reader.

ANDREW M. BABEY.

BOOKS RECEIVED

for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

NITROUS OXIDE-OXYGEN ANESTHESIA. McKesson-Clement Viewpoint and Technique. By F. W. Clement, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 274 pages, illustrated. 8vo. Cloth, \$4.00.

THE RECTUM AND COLON. By E. Parker Hayden, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 434 pages, illustrated. 8vo. Cloth, \$5.50.

TREATMENT IN GENERAL PRACTICE. The Management of Some Major Medical Disorders. Volumes I and II. Boston, Little, Brown and Company, [c. 1939]. 8vo. Cloth, \$7.50.

TEXTBOOK OF MEDICAL TREATMENT. By Various Authors. Edited by D. M. Dunlop, M.D., L. S. P. Davidson, M.D. and J. W. Mc-Nee, M.D. Baltimore, Williams and Wilkins Company, [c. 1939]. 1127 pages, illustrated. 8vo. Cloth, \$8.00.

DIE FETTLIGKEIT. Klinik, Pathologie und Therapie. By Dr. Karl Fellingner. Berlin, Urban & Schwarzenberg, [c. 1939]. 222 pages. 8vo. Paper, RM. 9.

BAPTISM OF THE INFANT AND THE FETUS. An Outline for the Use of Doctors and Nurses. By Rev. J. R. Bowen. Fourth edition. Dubuque, Iowa, The Nurses' Apostolate, St. Joseph Mercy Hospital, [c. 1939]. 12 pages. 8vo. Paper, 25c.

THE STORY OF SURGERY. By Harvey Graham. New York, Doubleday, Doran & Company, Inc., [c. 1939]. 425 pages, illustrated. 8vo. Cloth, \$3.75.

THE NEW INTERNATIONAL CLINICS. Original Contributions: Clinics and Evaluated Reviews of Current Advances in the Medical Arts. Edited by George M. Piersol, M.D. Volume III, New Series Two. Philadelphia, J. B. Lippincott Company, [c. 1939]. 332 pages, illustrated. 8vo. Cloth, \$3.00.

PATHOGENIC MICROORGANISMS. A Practical Manual for Students, Physicians and Health Officers. By William H. Park, M.D. and Anna W. Williams, M.D. Eleventh edition. Philadelphia, Lea & Febiger, [c. 1939]. 1056 pages, illustrated. 8vo. Cloth, \$8.00.

ATTAINING WOMANHOOD. A Doctor Talks to Girls About Sex. By George Corner, M.D. New York, Harper & Brothers, [c. 1939]. 95 pages, illustrated. 16mo. Cloth, \$1.00.

TEXTBOOK OF PATHOLOGY. A Correlation of Clinical Observations and Pathological Findings. By Charles W. Duval, M.D. and Herbert J. Schattenberg, M.D. New York, D. Appleton-Century Company, [c. 1939]. 681 pages, illustrated. 8vo. Cloth, \$8.50.

DO YOU WANT TO BECOME A DOCTOR? By Morris Fishbein, M.D. New York, Frederick A. Stokes Company, [c. 1939]. 176 pages. 12mo. Cloth, \$1.50.

ANESTHESIA ABSTRACTS VOLUME VII. By The Journal Club of the Section on Anesthesia, Mayo Clinic, Rochester, Minnesota. Minneapolis, Burgess Publishing Company, [c. 1939]. 220 pages. 4to. Cloth, \$2.25.

MEDICAL TIMES, NOVEMBER, 1939



EDITORIALS

Announcement

WE take pleasure in announcing an accession to our staff of Contributing Editors in the person of I. Newton Kugelmass, M.D., Ph.D., Sc.D., whose work in the field of infancy and childhood is known wherever pediatrics is taught and practiced.

"The Foremost Physician Produced by the United States"

HARVEY CUSHING'S work on the hypophysis gives him a unique place in the future annals of real medical greatness. His bold penetration to the brain's holy of holies was the most thrilling of our sagas, and one which gave a great fillip to endocrinological studies in general.

Here in our own daily lives was an amazing story rivalling — indeed overshadowing — the tales à la H. G. Wells of adventurers seeking in other planets some Kohinoor-like gem in imaginative caverns guarded by weird monsters and dire death rays.

No such adventuring as was Cushing's has the world seen since Theseus wove his way through the labyrinth of King Minos in Crete and slew the Minotaur.

The Lucky (?) Epididymitis of George Washington

IN a volume titled *Manuscript Notes of a Course of Lectures*, by William P. C. Barton, published in Philadelphia in 1818, there is an interesting account (page 360) of a dinner given for Washington during his first term as President. Dr. Shippen was present, and Washington inquired about the state of health of the city, whereupon Dr. Shippen replied

that there were no epidemics of any importance — that mumps was very prevalent, but that it was not necessary, of course, to give much attention to such an epidemic, as it was of so little consequence. But Washington dissented vigorously against such a conclusion, declaring the seriousness of the disease, for when young he had suffered from it severely, and in fact had not recovered from it in all respects. So the author of the *Manuscript Notes* records his belief that Washington must have suffered from the epididymitis and orchitis of mumps, with the atrophy that so frequently follows, which would account for his childlessness.

Some folk will think that if all this was true, a certain beneficence held sway in the infant days of the Republic. While the Washingtons were deprived of what would truly have been, for them, the precious family joys of parenthood, at least the country was spared the very real handicap of a Royal Family in the troublous days of its beginnings.

Tempest in a Teaspoon

THE teaspoon symbolizes many of society's problems that cry for solution but somehow defy rational adjustment. Where no compromise makes sense, we yet tolerate an obvious abuse.

So the medical dictionaries continue to define a teaspoon as a small spoon, holding about one dram of liquid (Stedman), or as a spoon of small size, containing about one fluidrachm or 4 cubic centimeters (Dorland). Note the "about" in both instances.

Now, the physician, in prescribing teaspoonful doses of some formula, has constantly to keep in mind the large size of the common household article alleged

to be a teaspoon — unless he knows that his patient possesses a proper measuring glass. For what is commonly called a teaspoon holds 100 minims rather than 60, so that 5 drams become 3 teaspoonfuls (of water). When one calls for a teaspoon in the typical home we know very well what will be handed to one.

The prevailing situation has come about, we suppose, because the dainty teacup and teaspoon of our grandmothers have become overshadowed by the larger coffee cup and coffee spoon. Did the "teaspoon" which the reader used this morning with his breakfast cup of coffee hold 60 minims?

Let's all adopt a standard teaspoon.

Hay Fever as a Professional Asset

THOSE supermen who do major obstetrics at all hours of the day and night get along well enough under the severest form of professional strain, with respect to their own coronary systems, provided they do not feel too deeply with their patients in the emotional sphere, do not live too long with the futile memories of tragic events, and take vacations regularly.

While struck with the frequency of coronary disease among our obstetricians over fifty, we have before us the example of a colleague who will probably outlive others in the obstetric field. Gifted in the first place with a happy temperament, he suffers from hay fever in such a severe form as to compel seasonally fixed annual vacations. Everything has to be dropped on a regular yearly schedule.

Perhaps hay fever should be part of the regular personal equipment of a qualified obstetrician — some will say of any and every hard-working practitioner.

Medical Opinions on War

FIFTEEN physicians representing the Netherlands Medical Association, various English, German, Swedish and American professional groups, and 340 psychiatrists of Europe, Asia, and North

and South America (twenty nations) have issued a statement setting forth their conviction that war is an unnecessary psychologic and psychiatric problem. They go into details as to causes and cure.

This statement of the Association's Committee for War-Prophylaxis is a most interesting document, coming from men who best of all are fitted to diagnose and prescribe for the world's worst ill. The *Journal of the American Medical Association*, in commenting upon it, remarks that, "Futile as one small group may seem in a world gone mad, it should be a source of pride and hope that the medical profession has set its face officially against war as it has in times past against other major

threats to the safety and integrity of man."

After all, as Mr. Justice Felix Frankfurter has said: "The task of modern statesmanship is to devise social inventions in order to deal with the maladjustments of our economic life in the spirit in which sanitary science has been dealing with epidemics."

The statement in question, titled *Medical Opinions on War*, is published in pamphlet form by the Elsevier Publishing Company of New York, Amsterdam and London.



HEMOPHILIA

For the control of hemophilic hemorrhages we must rely at present chiefly upon transfusions, but there is a prospect that further study of the chemistry and reactions of thromboplastin may provide a more convenient treatment in which the dosage may be regulated to meet the severity of the symptoms.

—William H. Howell, M. D.,
Bull. N. Y. Academy of M., Jan. '39.

MEDICAL TIMES, DECEMBER, 1939

TREATMENT OF

Chronic Sinus Disease

GUY E. GRIFFITH, M.D.

Tacoma, Washington

IN discussing chronic sinuses, I wish to confine myself to the patient who presents himself with a chronic sinus or sinuses of months or years standing. Right here is the place to dispose of the much argued question of ciliated epithelium. Cilia are microscopical cell elements. Larcell, of Portland, after extensive experiments on rabbits' sinuses does not believe any medicament except physiological salt solution or Ringer's solution can come in contact with the cilia without impairing or destroying them. In a chronic sinus the long-standing infection has destroyed the cilia so that they do not need to be considered as an adjunct to drainage. The drainage from chronic sinuses is strictly mechanical, depending on gravity and suction.

NATURE has supplied the nose with an ingenious suction device for each sinus or group of sinuses. The ostia of all the sinuses are placed in sulci. Those of the anterior ethmoids, frontals, and antra are under the middle turbinate. When one blows one's nose, the air rushing by these sulci creates a negative pressure in the sinuses and has a tendency to empty them. If swelling, hypertrophy or new growth destroy these sulci, then the sinuses have been deprived of one of their mechanical means of drainage. We still have gravity but the swelling or hypertrophy which obliterated the sulci is very likely to obstruct the ostia to the point where gravity does not help much. This, in passing, would be a reason for not sacrificing the middle turbinate unless it became so distorted by disease that the sulcus underneath it was of no more use in clearing the sinuses by suction. Furthermore, with

the middle turbinate gone, when the nose is blown instead of a negative pressure being created in the sinuses we create a positive pressure which is likely to carry infection into them. While on the subject of mechanical drainage of the sinuses let us consider the negative pressure created in the nasopharynx by forceful inhalation with a partially or totally occluded nose and the lips closed. This has a tendency to draw secretions out of the sinuses, the posterior ones particularly. The tenacity of these secretions when once started into the nasal cavity tends to empty the sinus when more negative pressure is applied in the nose, or a blast of air as in blowing the nose will carry a large amount of drainage with it. Snuffing or swallowing with nose partially occluded produces a negative pressure in the nasopharynx. Both of these procedures take place many times daily in sinus cases and, as a result, keep the eustachian tubes in a constant state of deflation. This undoubtedly has a great deal to do with chronic catarrhal deafness. Theoretically the soft palate should close the nasopharynx off from the throat on swallowing, but if one will close both nostrils and swallow one will experience the sensation of one's ears being deflated. This is relieved by swallowing with the nose open. Alternate snuffing and blowing the nose may seem very effective for cleaning the sinuses but if the eustachian tube is deflated and patent, and then is suddenly inflated by blowing the nose, we have a good chance for secretions to enter the middle ear. The only middle ear infection I ever had developed when I went into the mountains with a cold just sub-

siding. My ears were not adjusted to the altitude; I blew my nose and felt the ear fill up. The next day I had my ear drum lanced. There was no question about the cause or result. Strong negative pressure in the nasopharynx does not result from forceful inhalation or swallowing if the nostrils are clear and open. In fact, swallowing is nature's way of opening the eustachian tube to keep the middle ear aerated.

NOW to the consideration of the patient and what to do for him. For purposes of discussion we have divided sinus patients into three classes: (1) Patients with comparatively slight inflammation and considerable pain, (2) Patients who have pain and have enough involvement to seem to justify their complaint, (3) Patients with all their sinuses full who complain of no pain referable to their heads, possibly the only complaint being considerable postnasal drainage or the use of several handkerchiefs a day.

I do not believe that the sinusologist should try to chart his course alone. There are gynecological conditions which give rise to head pains resembling sinus pains. Refractive errors are often confusing. The neurologist will be of big help if there is a suspicion of hysteria, neurosis or some disease of the central nervous system. I have in mind a patient who complained of severe headaches and on examination we found she had a pansinusitis with considerable discharge. The patient was refracted and her headaches disappeared. She still has her sinuses but no pain. It would have been disconcerting to operate on her sinuses and not relieve her complaint although the sinus surgery was definitely indicated.

A PATIENT in class (1) of sinus patients is in for long courses of local treatment, tests for allergy, submucous resection, possibly infraction of the middle turbinate or possibly its removal, antrum punctures, maybe an antrum window. After several changes of doctors, the patient may fall into the hands of a doctor who, having the benefit of the previous eliminations and the aggravation of symptoms by natural or mechanical means, hits upon the offending cause and, if he has sufficient skill, eliminates it. But unfortunately by this

time the patient is a well advanced neurotic who deprives the doctor of the satisfaction of a job well done by imagining all kinds of impossible symptoms and refusing to admit any benefit. Some doctors, sensing the neurotic tendencies of the patient, keep hands off, but such a practice precludes the possibility of the patient obtaining a cure of his neurosis. A psychiatrist wants the actual irritants removed before he attempts to cure a neurotic. Only experience, conscientious and keen observation by the doctors, and the cooperation of the patient can cut this protracted course short and lead to a cured and satisfied patient.

The sinus patient in Class (2) is the easiest to take care of. In this case the cause of the complaint is evident and the suffering of the patient will insure his cooperation. It is up to the doctor to produce results. The sinus patient in Class (3) often presents a problem with respect to cooperation. The evidence of chronic sinus disease is not lacking but the symptoms referable to the head are lacking to a great extent. These patients complain of stomach or bowel trouble from the swallowing of pus for years. Bronchitis, possibly deafness, are often complaints. Then possibly the sinuses act as a focus of infection producing arthritis, neuritis, iritis and many of the various ailments caused by any other focus. Often the patients complain of lack of ability to concentrate.

Unfortunately, one patient belonging to Class (1) will spread more propaganda unfavorable to sinus surgery than ten satisfied patients of Class (2) can offset. The family physician has often been influenced unfavorably toward sinus surgery by disparaging remarks made by patients in Class (1). So we see these patients in Class (3) going through the fourth and fifth decades becoming prematurely old, developing asthma or some chronic ailment, and when we see them later they are such poor risks that we can only offer palliative treatment and wish them well. If we had been able to eliminate their trouble earlier, they would have had much more useful lives and much happier old age. Fortunately indeed is the sinusologist whose associates are alive to the regrettable results of uncared for upper respiratory infections.

NOW to take up the type of surgery best suited to relieve or cure chronic sinus disease. Let it be understood now that we do not pretend to improve on nature as far as a normal nose is concerned. But when it comes to a nose with diseased paranasal sinuses, we have devoted a great deal of time and thought to testing various treatments and operative procedures. After several years of observing the results of these procedures, we have come to some definite conclusions. For several years, I did only the intranasal surgery and used the external approach only for desperate cases. In fairness to the intranasal route, I must say that we got some very good results. The antrum presented a problem of the window closing. This we overcame by perfecting the Canfield-Ballenger technic, which is really an intranasal Denker. These windows were as permanent and patent as any Caldwell-Luc window. But on observing these sinuses years later, I found the walls were often covered by thickened polypoid membrane. The sphenoid was another problem. Biting out the floor of the sphenoid is much easier said than done with any intranasal instrument of which I know. Sometimes, of course, it could be done but usually it was unsatisfactory and we had to be contented with the removal of the anterior wall. The chief reason for the difficulty in removing the floor of the sphenoid is the bifid part of the vomer which articulates with the rostrum of the sphenoid. This part of the vomer is of ebony-like consistency and if one wishes to open both sphenoids one can do a submucous resection of the vomer, exposing the anterior wall of the sphenoid, bite down the anterior wall to the floor, remove septum of sphenoid, then with heavy forceps this bifid portion of the vomer can be loosened and removed. After this reinforcement has been removed the rest of the floor can be handled with biting forceps. This technic is only applicable in selected cases.

SEVERAL years ago, I was confronted by several patients in a short time who did not respond favorably following intranasal surgery and I was forced to resort to the external approach. In these patients I was impressed by several

things, first, their quick and uneventful recovery, second, the ease of accessibility of the diseased sinuses that were inaccessible by the intranasal route, and third, the lack of purulent discharge that was not uncommon following intranasal surgery and which made patients require long postoperative treatment to reduce it to a minimum. Since adopting the external route more generally, I have observed so many different types of pathology in the lining of the sinuses that I am of the opinion that if a sinus is sufficiently diseased to justify operative interference, the only thing to do is thorough, complete removal of the lining membrane. Partial removal of the membranous lining of large sinuses produces islands of secreting membrane surrounded and almost overgrown with granulation tissue. This gives rise to a cyst or a fistulous tract leading to the unremoved membrane.

Ferris Smith and Sewall have thoroughly described the technic of sinus surgery by the external approach. Three points I would like to stress are (1) the absolute removal of the lining membrane, (2) the dissection of the orbital periosteum without traumatizing the pulley to the superior oblique (there must be synovial membrane in this pulley and if the elevator slips across it there is liable to be permanent damage to it), and (3) the sphenoid when entered should have the floor removed. I think Ferris Smith has the best answer to this with the electric burr. The placing of the skin graft or the mucous membrane flap in the region of the obliterated nasal frontal duct is a refinement but is not a substitute for the thorough removal of the lining membrane of the sinuses. I find that the use of the electric burr facilitates the preparation of the mucous membrane flap and is much less disturbing to the patient than using the mallet and chisel.

THE question naturally arises in the minds of general men and specialists—why all this to-do about a sinus operation? Is it not a revival of an old operation which has been discarded and will be discarded again? This I will answer by saying that it is a distinct advance and will be useful for a long time to come. Two things are of prime importance in performing good surgery. The first is good technic and the second, good

anesthesia. Only recently have we been able to furnish the latter for sinus cases. The synergistic action of some of the barbiturates, morphine and scopolamine produces a drowsiness or sleep and this, combined with thorough local anesthesia, produces an ideal anesthesia which permits the doctor to perform a tedious operation that may consume from one and a half to three hours. Sometimes the patient sleeps through the whole procedure, sometimes he is semiconscious, but the important thing is that he is not nervous or apprehensive and time means nothing to him. I have had occasion to operate on two boys nine years of age. On one boy I did only one side; on the other I did both sides two weeks apart and, believe it or not, neither of these youngsters shed a tear and they were talking to me throughout the entire operation which consumed at least two hours each. I had a series of three elderly women, ranging from seventy to seventy-six years of age, as patients. One of these women was so jittery that it was difficult to get a nasal speculum into her nose for office examination. Under the above mentioned anesthesia she cooperated perfectly. I might add that all three of these old women made quick and uneventful recoveries. Some men in using barbituric acid derivatives have become frightened because of their marked respiratory depressant effect on old people. One learns to gauge his dosage for different types of patients and we have a very efficient antidote in coramine. Two ampoules intravenously work like a charm.

UNDER this anesthesia, one can go about one's work unhurried, in an almost bloodless field. These conditions are essential to this type of work. Such an operation would be practically impossible under any other anesthesia of which I know except possibly rectal anesthesia. The truth of the matter is, however, that this type of anesthesia has been so satisfactory for me that I have not looked for a substitute. My preoperative orders are as follows: 1½ hours before surgery patient is given sod. amytal gr. III by mouth. One hour before surgery patient is given a hypodermic of 1/6 morphine and 1/200 scopolamine. Often I substitute 1/32 of dilaudid for the morphine. This hypodermic is repeated in ½ hour.

Patient is not disturbed then until he is brought to surgery on a cart. If patient is not sufficiently drowsy or is at all apprehensive, he is given a capsule of nembutal when he comes to surgery. For the two boys I mentioned, I used only one hypodermic of codeine gr. ½ and atropine 1/300 in addition to the above mentioned barbituric acid derivatives.

THE operative procedure has to be varied to suit the case, but in a case of pansinusitis I prefer to do one complete side at a time, first a Caldwell-Luc antrum and the cleaning out of any posterior ethmoids overriding the antrum. In some cases we find cells above the antrum that would be difficult to reach by any other route. Then the fronto-ethmoidal operation following Ferris Smith technic and placing a split skin graft in the region of the obliterated nasal frontal duct, or Sewall and Kistner's technic, using a membrane flap instead of the split skin graft. As I said before, I find that the electric burr facilitates removal of bone to prepare this mucous membrane flap and is less disturbing to the patient than mallet and chisel. I do not believe there is any choice between the split skin graft and the mucous membrane flap; both work equally well. The mucous membrane flap is technically more difficult. The eye on the operated side is covered and, except for the removal of the tube or pad used to hold the graft or flap in place, there is no intranasal manipulation for a week. Shrinking the nose or any other intranasal manipulation in the first few days always leads to postoperative annoyance to say the least.

TO conclude, I shall enumerate the advantages of this operation. First, you are working under direct vision, and there is no uncertainty as to what you are doing; second, you are eradicating a focus of infection—you cannot drain a diseased sinus membrane; third, there should be no chance for extension or recurrence if the job is done thoroughly; and fourth, the patient has a quicker, more comfortable convalescence, postoperative treatment is practically eliminated and postoperative complications are greatly reduced.

528 MEDICAL ARTS BUILDING.

COMMENTS ON *Headaches*

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New York, N. Y.

EVERY patient who has been subject to repeated headaches consults the nose and throat specialist at some time or other and so it is particularly pertinent that the specialist have the ability to analyze such a patient and not jump to the conclusion that a pain in the head is always due to sinus trouble or something allied to it.

The majority of specialists are keen enough to appreciate that a number of headaches are not due to a nose and throat condition. Yet, unless these specialists have suffered from a baffling type of headache themselves, I fear that they will not go far enough to delve into causes which may be very remote and very mysterious. If I am thus criticizing others, I am also criticizing myself.

Some time ago an article appeared in one of our popular magazines in which the author criticized the doctors whom he consulted (and the medical profession in general) because he was unable to get relief from his headaches although he went to see a number of competent men. The article was manifestly unfair because endocrine factors and emotional instability were not taken into account. Shortly after that I wrote a short paper (rather facetious) for the *Eye, Ear, Nose and Throat Monthly* entitled "Ten Doctors and a Headache," in which I attempted to show how impossible it was to make a diagnosis of a headache without making a thorough analytical study of the patient.

Categorically, one may state that a severe headache is a symptom caused by:

- (1) Gastro-intestinal disturbances.
- (2) Eyestrain, often due to errors of refraction.
- (3) Nasal conditions; often a disease

or inflammation or infection which may be acute, subacute or chronic.

(4) Migraine—diffusive, acute headache of unknown origin.

Although the above classification may account for the majority of headaches, by no means does it account for all of them. For example, headaches are an accompaniment of almost all acute and infectious diseases. It is the forerunner of a meningitis and it is constant in brain abscess, brain tumor and syphilitic conditions of the meninges. It also is an accompaniment of anxiety neuroses and emotional upsets of one kind or another.

TAKING into account all of these factors which may give rise to a headache, is it possible to conclude that any single causative factor or any combination of a number of factors may bring on a headache?

One should give consideration to two causes at least—the toxic and the mechanical. By far the majority of headaches are caused by the former, whether it be a mild constipation or a severe nervous strain. Such a toxin may be manufactured in a thousand and one ways within the body. Considering the complexity of body tissues, and the poisons emanating from the intestines, blood stream and elsewhere, one wonders that all of our tissues function as well as they do and give forth so few toxic substances. For example, there is no worse headache than the one that accompanies a constipation in a person whose intestinal function is ordinarily normal. Is it the constipation that gives rise to the headache or the factors which cause the constipation? For example, a patient has been worried about business or he has had an argument with his wife which has resulted in a few sleepless

nights. His bowels cease to function and then a dull headache comes on. Again, is the headache caused by the factors suggested above resulting in the constipation or by the constipation itself? The answer is that various chemical upsets have occurred which cannot be alleviated until the intestines are cleaned out and some semblance of normality established.

OPPPOSED to the toxic origin of headaches is the mechanical. In this class may be included eyestrain, sinus troubles, tooth infections and direct pressure upon the brain. Recent experiments have tended to prove that a migraine may be of the mechanical type. More will be said about this later. For example, a little child of twelve had been acting rather queerly for some time. The parents thought she was merely naughty and punished her. One day she complained to her grandmother that she thought she had a pain in the head "lots of times" and that she couldn't see very well out of her left eye. Her grandmother thought it was one of her tantrums but the next day the child was listless and refused to go to school. By that time the mother felt it would be wise to consult an eye doctor to really see whether there was anything the matter with the eye or not. There was plenty the matter. An edema of the left optic nerve was found due to some intracranial pressure as yet unsolved. The headaches still continue.

Another case of equal interest is the following: Some years ago, a man of about fifty consulted me stating that he had been suffering from severe headaches for years. He could feel a sudden, severe pressure in his head which drove him almost crazy. Examination revealed a purulent sphenoiditis on the right side. Operation was decided upon. When the sinus was opened up, careful probing showed that the wall between the sinus and the brain had become completely eroded. Within a few days after operation, the diseased dura gave way, meningitis developed and the patient died.

Mechanical headaches are so common and the causes so varied that one must be careful not to jump to conclusions until one has made a most painstaking examination.

AS I stated, many patients consult the nose and throat specialist because they are suffering from headaches. Is the headache due to a nasal condition or not? The specialist should not think of nasal conditions only. A thorough questioning of the patient is necessary. How frequently do the headaches occur? Where is most of the pain—over the eyes, in the face, around the temples, on top of the head or in the occipital region? Are they of daily occurrence? Do they come on during the day or at night? Has the patient any gastro-intestinal disturbance? Were the eyes examined by a competent specialist recently? How long has it been since the patient has had a vacation? Has the patient had any particular worries or emotional disturbances recently? And a dozen and one other questions may give a clue.

There are certain headaches which are definitely due to a nasal condition. But one must not forget that the nasal condition may be secondary, the result of a dysfunction in some other part of the body.

I am reminded of the patient whose headache was so severe that she was sent to the hospital to be treated for a serious nasal sinusitis with a possible operation on the sinuses. Within twenty-four hours, she became unconscious, her temperature rose to 104 and there were suggestive signs of meningitis. The intestines were cleaned out with a high olive oil enema and, on the two following days, she was given high colonic irrigations. Within a week she was completely well. The mucopus in the nose subsided although no drastic treatment had been given to the sinuses.

Many of the patients consulting rhinologists are suffering from migraine, either the typical kind which they themselves recognize, or the atypical which comes on for no known reason. They consult the specialist because they have thus far obtained no relief. Nasal examination, transillumination, and x-ray pictures frequently show a hyperplastic condition of the ethmoid cells or polypi in the antra.

THERE is no excuse for operative procedures in these patients with migraine just because of the x-ray findings.

How can one tell which cases will respond to nasal treatments and which will not? Here are a few suggestions:

(1) A sinus headache is more or less localized in the fore part of the head and face.

(2) Sinus headaches are steady and often can be relieved by giving analgesics.

(3) Migraine comes on suddenly. The patient may awake from a sound sleep in the early morning with a severe migraine headache. Sinus headaches do not act that way.

(4) Migraine affects the whole head and is usually accompanied by *hyperesthesia of the scalp*. The tenderness is often so great that the patient can hardly bear to touch the head to a pillow.

(5) There is a definite pulsation in the head itself in migraine cases. The patient feels the throbbing and has the sensation that the skull wants to burst open.

(6) Nausea and vomiting often accompany migraine.

ONE of our patients had never suffered from severe headaches until this past winter. In the late fall he developed a sinus condition without appreciable drainage from the nose. A few weeks later his gastro-intestinal system became upset and the headaches began. The pain was all over his head, particularly in the occipital region and behind the eyes. Analgesics and codeine did little good. He would be comparatively free from headaches during the day but would awake from a sound sleep about three o'clock in the morning screaming with pain. A number of physicians were consulted. Eyes were checked up, including visual fields, and found normal with the glasses he usually wore. Wassermann, blood chemistry, blood count and blood sugar were all normal. The basal metabolism was minus thirty-seven. This condition was soon corrected with thyroid gland tablets but the headaches became more severe. X-ray pictures revealed thick granulations in both antra. The sinuses were operated upon but the headaches still persisted. The symptoms continued for over four months and then gradually disappeared.

This patient was suffering from an atypical form of migraine which occurs frequently and is often unrecognized. In

all probability the original sinus trouble created an intestinal toxemia that gave rise to some obscure poison in the body which led to an engorgement of the blood vessels of the dura mater causing pressure on the brain.

WHAT can one do in such cases? The usual analgesics and some form of opium may sometimes help. In other cases an injection of morphine is necessary. But fortunately, within the past few years, ergotamine tartrate (gynergen—Sandoz Company, New York) has been placed on the market and gives striking results in a large number of cases of migraine. Brickner, at the Neurological Institute, and Wolff, at the New York Hospital, have cited a number of cases of migraine which have been relieved of their headaches by the administration of gynergen, either by mouth or hypodermatically. No one knows just how this preparation of ergot works, but the theory is that it relieves congestion in the blood vessels of the dura.

In giving ergotamine tartrate, a few facts should be kept in mind:

(1) The medicament should not be given until the attack begins.

(2) The patient should lie down and rest for at least one hour after taking the medicine. An icebag to the top of the head will help.

(3) If given by mouth, two to three tablets should be placed under the tongue and allowed to dissolve. This works better than swallowing the tablets.

(4) If gynergen is given by injection, and sometimes by mouth, nausea and vomiting may follow. Such symptoms, of course, may result from the migraine itself.

In the case cited above, the patient obtained no relief from the usual medications. But gynergen frequently relieved him within an hour and sometimes a second attack would not come on for a day or so.

THE Mayo Clinic has recently commented upon the fact that when gynergen and other remedies do not give the relief desired, notable results can be obtained by the inhalation of oxygen. Sufficient substantiating evidence has not as yet been obtained. But here is another

—Concluded on page 560

FUNDAMENTAL RELATIONS OF THE INSTANTANEOUS ELECTRICAL AXIS OF *Cardiac Accession*

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New Orleans, La.

FOR certain purposes of electrocardiographic analysis it is desirable to know the direction and magnitude of the instantaneous cardiac electromotive force produced by the heart beat during the P and (QRS) or accession intervals. This information may be obtained in the following way:

One familiar with electrical theory can scarcely doubt the evidence^{1,2} that the accession wave acts electrically the same as if it were a shell of spherical surface carrying a uniformly distributed positive charge upon its advancing surface and a numerically equal uniformly distributed negative charge upon its trailing surface.

Let us consider quite an arbitrary shell of this sort situated at the center of a relatively large Einthoven triangle RLF (Fig. 1) where the latter defines as usual the frontal plane of the body trunk. We shall choose first the more general case in which the shell has a free-edge or boundary at the limiting surface of the myocardial mass in which it is traveling at the instant under consideration.

Let R be the radius of a large sphere. Let the center of the sphere and triangle coincide. Let the length of R be such that the surface of the sphere passes through the apices of the triangle. Let S' denote the arbitrary open shell of spherical contour situated at the center of the sphere of radius R. Let S denote a shell of plane surface the boundary of

which is coincident with that of S'. If S is charged in the same sense and density as S', the shells are said to be equivalent for the electrical fields produced by them may be shown to be identical.³ Consequently, we may replace S' by S whenever it becomes convenient.

From an expression given by Canfield,⁴ Wilson has derived the equation which describes the potential at any point in the electric field due to a shell of this sort at its center and limited to the volume of the large sphere.¹ For the potential V at any point upon the surface of the sphere of radius R, Wilson's equation assumes the more simple form

$$V = \frac{3\phi}{R^2} \iint_S \cos\theta \, ds \dots (1)$$

where ϕ is the so-called electrical moment of S or S'; R is the radius of the large sphere drawn to the point at which V is measured; ds is an element of surface of S replacing S'; and θ is the angle formed by R and the normal to the positive surface of S.

Let \mathbf{E} be a vector normal to and through the center of S with origin p_1 and terminus p_1 at the surface of the large sphere and direction such that an observer stationed at p_1 views the positive surface of S. Consequently, the potential V_1 at p_1 is $3\phi S/R^2$ for here $\cos\theta$ is unity. The potential V_2 at p_2 is $-3\phi S/R^2$ for here $\cos\theta$ is minus unity.

If \mathbf{E} is a vector quantity representing the electromotive force of S or S' in both magnitude and direction as measured across p_1 and p_2 , the direction of \mathbf{E} is collinear with that of \mathbf{E} by definition

¹From the Department of Medicine of the School of Medicine of Louisiana State University.

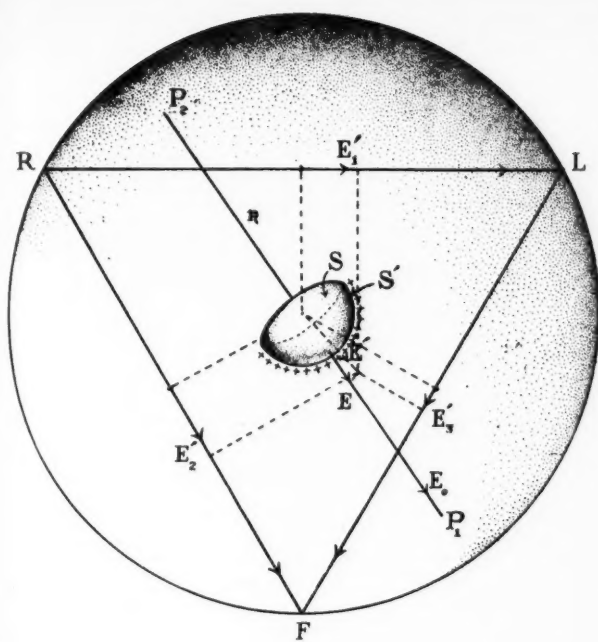


Fig. 1.

The arbitrary open shell at the center of Einthoven's triangle.

and the magnitude of E is $V_1 - V_2$. That is

$$E = \frac{6\phi S}{R^2} e \dots\dots\dots (2)$$

where e is a unit vector in the direction of E and by definition is an outward drawn normal to the positive surface of S . This relation clearly shows that the cardiac electromotive force E at any instant during the accession intervals has a magnitude which is entirely independent of the configuration of the surface of the accession wave. Eqn. (2) states that the voltage produced by the heart beat during the specified intervals across two distant points on the body surface which include the heart between them is equal to six times the product of cell membrane E.M.F., the area included by the boundary of the accession wave, and

the cosine of the angle made by E and the line of the lead, all divided by the square of the distance from the heart to one of the distant points.

Inasmuch as the only property of eqn. (2) that varies according to the order of accession is S , we may put $6\phi/R^2$ equal to unity, and obtain for the purpose of analysis the simple relation.

$$E = Se \dots\dots\dots (3)$$

where the direction of E is that of the outward drawn unit normal vector e to the positive surface of S , and the magnitude of E is numerically equal in units of length to the area of S in units of area. In general S has two dimensions of freedom, a change in orientation

about its fixed center and an alteration in its circumference. Either of these variations of S will mean by eqn. (3) a corresponding variation in the direction and magnitude respectively of E .

In the particular case of more than one accession shell within the heart simultaneously, or in the case where a single shell has more than one boundary, we may denote the replacement shells, one for each boundary, by S_1, S_2, S_3, \dots etc., and the individual electromotive forces related to the replacement shells become $S_1e_1, S_2e_2, S_3e_3, \dots$ etc., respectively. In these cases E at a corresponding instant is given by

$$E = S_1e_1 + S_2e_2 + S_3e_3 + \dots \text{etc.} \dots\dots\dots (4)$$

If stimulation has occurred within the myocardial mass rather than at a point upon its surface, the shell which develops about the point of stimulation will have

the form of a spherical closed surface. The surface will remain closed until the shell reaches the limiting surface of the myocardial mass in which it is expanding. As long as the shell is closed the electromotive force related to it is zero. This statement merely agrees with the physical facts which state that the electric field due to a closed surface of double layer vanishes everywhere outside of the surface.⁵

Since the P and (QRS) loops of the two dimensional vectorcardiogram are a record of the path described in space by the terminus of E' , the projection of E onto RLF, we have for the relation connecting E' and E ,

$$E' = E' \cos(E, E') e' \dots (5)$$

where e' is a unit vector in the direction of E' , and it may be seen that if at some instant E is normal to the triangle RLF, $\cos(E, E')$ is zero and E' vanishes.

E as defined by eqns. (2), (3), and (4) may well be called the instantaneous electrical axis of accession. When we regard the origin of E as fixed at the center of the sphere or triangle the gyrations of its terminus during the accession intervals describe an imaginary path in space. This path corresponds to the P and (QRS) loops of the three dimen-

sional vectorcardiogram. The projection of this path onto the triangle RLF will be the path described by the terminus of E' , corresponding to the P and (QRS) loops of the two dimensional vectorcardiogram.^{6,7}

By the following relations we may now determine the form of P and (QRS) of the standard leads.

$$\begin{aligned} E'_1 &= E' \cos(E', E'_1) e'_1 \\ E'_2 &= E' \cos(E', E'_2) e'_2 \\ E'_3 &= E' \cos(E', E'_3) e'_3 \end{aligned} \dots (6)$$

where e'_1 , e'_2 , and e'_3 are unit vectors in the directions of E'_1 , E'_2 and E'_3 respectively. The voltages E'_1 , E'_2 , and E'_3 give the magnitude of the deflection of the galvanometer at any instant during the accession intervals in the lead designated by the subscript. The direction of the deflection, above or below the base line, is determined from Fig. 1. If the projection of E' onto the line of the lead agrees with the direction given to the related side of the triangle, the motion of the string is upward; if not, the motion is downward.

If and when the order of accession is known the application of these principles enables a prediction of the form of the accession deflections with considerable nicety.

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1542 TULANE AVENUE.



HEADACHES

—Concluded from page 557

suggestion that is worthy of our consideration.

Conclusions

1. Headaches may be of nasal origin but more often are not.
2. Headaches may result from very remote causes.
3. Most headaches are either toxic or mechanical.

4. Toxic headaches may be the result of or give rise to various emotional or nervous disturbances.

5. Treatment must be directed to the cause and one should not be content to continually recommend analgesics.

6. Migraine is a separate entity.

7. Certain remedial agents are now available which greatly relieve the migraine attack.

8. Repeated headaches should give serious concern for they may indicate some intracranial condition.

136 EAST 57TH STREET.

THE MISUSE OF THE

Electrocardiogram

IN DIAGNOSIS

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THE electrocardiogram is one of the best adjuncts in cardiac diagnosis. If properly used and correlated with the clinical picture it will often help us in the diagnosis of doubtful cases. Its misuse, however, may at times be detrimental to the patient.

Two recent experiences illustrating the injurious effects of improper interpretation of correlation of the electrocardiogram with the clinical case history prompt me to contribute this paper. It is felt that such experiences will stimulate thought and will be an incentive to greater care.

ONE case relates to a female, 40 years old, who was always well. She was cheerful and happy and suffered no constitutional disturbances except for occasional tired feeling and slight faintness which were attributed to chronic constipation and were relieved by catharsis.

Several months ago she had an electrocardiogram done in some laboratory and was informed that it showed severe heart disease. From that time on she developed marked mental depression with exaggeration of her symptoms and a constant fear of impending death.

I examined her shortly after and found her heart to be of normal size and shape, the sounds were normal, and no murmurs were heard. The cardiac function and an electrocardiogram done at this time were found to be perfectly normal. After considerable reassurance her symptoms abated.

Figure 1A is part of the electrocardiogram she obtained in the laboratory with the laboratory description as follows:

"Rate 96, rhythm mostly regular. QRS is slurred and R-T elevated in all leads. In lead 3 there appear to be multiple P waves. There is a definite delay in intraventricular conduction time which could either be a result of coronary sclerosis or thrombosis. The clinical picture will differentiate. The fact that the T waves are all positive favors the diagnosis of coronary sclerosis. The superficial sinospiral muscle is mainly involved. Lead 3 appears to show transient auricular fibrillation. The resistance was high in taking the record which tends to exaggerate the slurring of the R-T in all leads. The immediate prognosis is good—the ultimate prognosis is poor since such lesions are apt to be progressive."

It stands to reason that a formidable account of disease such as this would react seriously on a patient. It is important to note, however, that the defect in this electrocardiogram is entirely due to extrinsic disturbance caused by high skin resistance, not by cardiac disease. This was proved by the normal electrocardiogram (Figure 1B) obtained in my office after the patient was properly prepared.

ANOTHER experience relates to a male, 46 years old, who for nine months had experienced occasional pain in the retrosternal region, radiating to the right supraclavicular space, and shortness of breath coming on after exertion.

On January 22, 1938, while walking home, he developed a sudden, severe, knife-like pain over the precordial region which lasted one hour and was associated with marked choking sensation, nausea, vomiting and collapse. A large dose of morphine and the administration of oxygen were necessary for relief.

I saw him in consultation four days after the attack and I found his heart to be enlarged, rate about 65 to 70 per

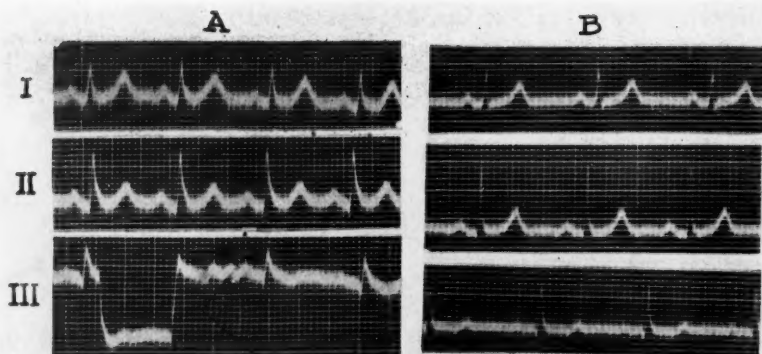


Figure 1

A—Three conventional leads showing artefacts and distortions due to improper preparation of the patient.

B—The same three leads obtained from the same patient after proper preparation. The tracing is perfectly normal.

minute, and rhythm regular. A presystolic gallop rhythm was heard over the left lower precordium and the first sound was weak. Both bases of the lungs were congested and his temperature ranged between 100 and 101 degrees Fahrenheit. His blood pressure was systolic 105 and diastolic 90, whereas before the attack it was 165 systolic and 110 diastolic. His blood count showed a leukocytosis of 14,500 with a polymorphonucleosis of 78 per cent and the blood cell sedimentation rate showed a drop of 28 millimeters in 1 hour.

Based on these findings, my clinical diagnosis was acute coronary occlusion superimposed upon pre-existing arteriosclerotic and hypertensive heart disease.

An electrocardiogram taken at that time (Figure 2A) did not show a typical pattern of any of the ordinary types of acute coronary occlusion. In view of the clinical picture, however, the changes were significant. The patient was advised complete bed rest for 6 to 8 weeks or longer if the condition required it.

He stayed in bed only 4½ weeks and then visited a laboratory for another electrocardiographic check-up, the tracing of which is shown in Figure 2B. The interpretation of this tracing as given by the laboratory was as follows:

"There is considerable deviation of the ventricular contractions from the normal. The T wave in lead I is deeply inverted. The QRS

complexes are of high voltage in leads I and III, the R-T segment is depressed in lead I and elevated in lead III, and the electrical axis is deviated to the left. These changes are absolutely typical of an enlarged heart due to prolonged hypertension. This is confirmed by the characteristic lead IV changes, with a deep Q wave, elevated R-T segment and upright T wave. (N.B.—This lead IV is the new type lead IVR recommended by the American Heart Association which is a reciprocal of the old type lead IV). Comparison with the tracing taken 1/26/38 shows practically no changes, except that the T wave in lead II is somewhat higher. According to my interpretation, the diagnosis of acute coronary occlusion is absolutely incorrect and unfounded. This type of record is perfectly characteristic and typical of an enlarged heart due to hypertension; it is a stable type of record and will undoubtedly persist for the remainder of the patient's life . . . it is certain that this is not a case of coronary artery occlusion, but merely one of prolonged hypertension with an enlarged heart."

The tracing referred to as of 1/26/38 is the one taken shortly after the attack shown in Figure 1A.

On the basis of this assurance the patient resumed his activities in spite of considerable dyspnea and marked effort angina, and continued them for about four months. After driving his car for a distance of several hundred miles one day, he developed another severe spontaneous attack of retrosternal pain lasting several hours after which a final and complete breakdown of his cardiac reserve ensued. An electrocardiogram

taken soon after this attack is shown in Figure 2C. The tracing at this time is of the type that goes with acute coronary occlusion and infarction of the posterior basal portion of the left ventricle.

His condition became progressively worse and he died about one month later.

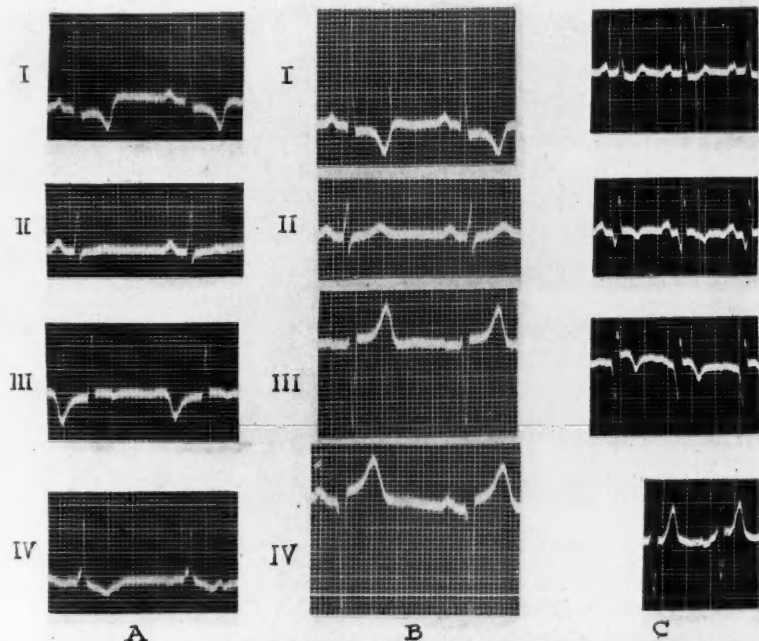
IN GOING over the laboratory report of the electrocardiogram the definiteness with which the following assertions are made is of interest: "the diagnosis of coronary occlusion is *absolutely incorrect and unfounded*; the type of record is perfectly characteristic and typical of an enlarged heart due to hyper-

tension; it is a stable type of record and will *undoubtedly* persist for the remainder of the patient's life."

If we consider each of the first two electrocardiograms (Figures 2A and 2B) separately and independently and we do not take into consideration the patient himself, there might be some justification in assuming that the individual electrocardiogram was probably derived from a hypertensive heart. Rykert and Hepburn (1) found abnormalities noted in these electrocardiograms to be frequently associated with arterial hypertension. The abnormalities consist of a negative T wave in the first lead and a positive T wave in the third lead; depression of the R-T segment in the first lead and elevation of the S-T segment in the third; left axis deviation and increase in the voltage of the QRS complex. They attempted to differentiate these tracings from the usual types found in acute coronary occlusion by the stability of such findings and by depression

Figure 2

From a patient with arteriosclerotic and hypertensive heart disease who sustained two attacks of acute coronary occlusion. A—four days after the first attack; B—four and one-half weeks later; C—three months later and soon after sustaining the second attack.



instead of elevation of the R-T segment in the first lead in the former.

It is interesting to note, however, that in 143 cases which they studied, 16 showed coronary thrombosis on post-mortem examination. Also, whereas the condition is supposed to be characteristic of hypertension, nineteen cases of their series did not have hypertension, although 11 of these nineteen had aortic valvular disease with resulting cardiac enlargement. Therefore, even on the basis of the individual electrocardiograms, we can not accept the laboratory report's definite allegation as to absence of coronary thrombosis in this case.

On careful comparison of the tracings 2A and 2B, this becomes more evident. In spite of the laboratory statement that "comparison with the tracing taken 1/26/38 shows practically no change", there are definite changes to be noted, if standardization is adhered to, which indicate some instability of the electrocardiograms and would speak for an active process occurring in the heart. The changes are: increased voltage of the R wave in the first lead and of the QRS complex and T wave in the third lead in 2B as compared to 2A; almost isoelectric T wave, with diphasic tendency, in the second lead in 2A, whereas this wave is definitely positive in 2B. Some change in the P wave in the third lead and definite increase in the voltage of the QRS complex and the T wave in the fourth lead in 2B as compared to 2A. The comparison of the fourth lead findings should of course be made on the basis of the inverted picture of the complexes of one of the tracings as compared with the other, inasmuch as 2A was obtained on a hook-up according to the old standards.

The certainty with which the laboratory report speaks of the electrocardiogram as "a stable type of record and will undoubtedly persist for the remainder of the patient's life" is amusing. It apparently considers the human mechanism a purely mechanical and physical machine, not realizing that we are dealing with life and with its innumerable and uncontrollable forces. That radical changes did occur in the electrocardiogram not very long after is seen in 2C.

The discussion of this case is detailed because it illustrates the danger of depending for our diagnosis on mere laboratory findings without a comprehensive knowledge of the case history, which only a clinician may have. It illustrates the importance for the physician in not attempting to arrive at a diagnosis on mere laboratory findings, regardless of how typical they may seem to be.

THE importance of correlation of the clinical and electrocardiographic findings in arriving at a proper diagnosis will be appreciated when we realize that a given electrocardiogram may often represent different conditions or different degrees of severity of disease. Thus certain electrocardiographic phases of acute coronary occlusion are occasionally seen in such conditions as accidental injury to the heart, pericardial effusion, localized myocarditis of rheumatic origin, and pulmonary embolization. Also, in many cases of severe cardiac disease the electrocardiogram may be entirely normal. On the other hand, cases with minimal cardiac damage located in an area of the heart where the conduction of the main impulse of the heart is concentrated, such as one of the bundle branches, or with no apparent damage, may show marked changes in the configuration of the electrocardiogram, and may thus give us a false impression of the severity of the disease. This is illustrated in previous communications.^{2,3}

In addition to the different significance that a given electrocardiogram may at times have, various intrinsic and extrinsic physical and physiologic factors may modify the electropotential coming from the heart and may thus give us an abnormal electrocardiogram where the heart may be perfectly normal, as the first case in this paper illustrates.

It is thus seen how important it is to have a proper knowledge of the interpretation of the electrocardiogram as well as a thorough understanding of the clinical features of a case in order to arrive at a proper diagnosis.

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—Continued on page 575



CLINICAL NOTES

THESE cases are reported for the following reasons: Both patients had a *Streptococcus hemolyticus* pneumonia, the first complicated by a type XIX pneumococcus, and the second by a type XI pneumococcus. Both patients were poor risks. The first patient had hypertensive heart disease with a history of left ventricular failure. The second patient had a marked kyphoscoliosis with a resulting distortion of the structures within the chest. The combination of pneumonia due to virulent microorganisms with serious underlying organic disease or physical deformity usually points to a grave prognosis. In the first patient there developed a toxic psychosis and a disturbance of the carbohydrate metabolism manifested by hyperglycemia and glycosuria. These phenomena apparently were not due to the infection since the patient was already improving. Therefore, because of the dramatic response of the patient to thiamin chloride the symptoms described might possibly have been due to a thiamin chloride deficiency. No attempt is made to draw conclusions from one case. However, it is felt that the facts in this instance are worth noting. The second patient showed marked intolerance to sulfapyridine, which produced nausea and vomiting. She tolerated prontosil and neoprontosil quite well. It is felt that the recovery of

these patients is at least in a large measure due to the employment of sulfanilamide.

CASE I Mrs. R. G., 60 years old, the mother of a physician.

Family history: Irrelevant.

Past history: The patient suffered from hypertension for years, and also from attacks of giant urticaria involving both hands, three years previously. She was under my care for almost two years, prior to her present illness, during which time the patient complained of attacks of dyspnea on walking a few blocks and of substernal choking on reasonable exertion, compelling her to halt. She would awaken during the night with a choking feeling in the chest and would be compelled to walk about to catch her breath. She also complained of dizziness and blurred vision. Her blood pressure varied between 220/100 and 250/120. Her

heart was enlarged to the left. There was a rough, blowing systolic murmur over the entire precordium. Repeated urine examinations showed a trace of albumin but no sugar. The specific gravity of the urine was in the region of 1020. The electrocardiogram showed left ventricular preponderance and normal sinus rhythm. A Q wave was present in lead I and there was some slurring of the QRS complex in all leads.

TWO CASES OF RECOVERY FROM STREPTOCOCCUS HEMOLYTICUS PNEUMONIA COMPLICATED BY PNEUMOCOCCUS Type XIX and Type XI respectively
TREATED WITH

Sulfanilamide

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During the year preceding her present illness, she suffered a few attacks of left ventricular failure. Because of her condition, a life insurance company granted her request for total and permanent disability benefits.

Present History

ONE week prior to the onset of her illness, the patient lost her stepdaughter from heart disease. The patient underwent considerable mental and physical strain and exposure. On October 7, 1938, at 2:30 a.m., she had a severe pain in the right chest, chills and she began to cough. She became very ill. Examination ten hours later revealed an acutely ill elderly female, cyanotic and dyspneic. She complained of a great deal of pain in the right chest. There were signs of a typical pneumonia involving the entire right upper lobe. Her blood pressure was 150/60. The heart sounds were rapid and of fair quality. The ankle and knee jerks could not be elicited. There was marked calf tenderness and plantar hyperesthesia. She was removed to the Park East Hospital. Her temperature was 104, pulse 92, respirations, 32. Her blood count was: red blood cells 4,000,000; hemoglobin 78 per cent; white blood cells 38,800 of which the polynuclears numbered 86 per cent and the lymphocytes 14 per cent. X-ray of the chest showed a right upper lobe pneumonia. (See plate I) A blood culture taken at this time proved negative. The typing of sputum revealed a predominant *Streptococcus hemolyticus* infection complicated by a type XIX pneumococcus. She was placed in an oxygen tent. She was treated with prontosil as follows: October 8th—40 grains, October 9th—80 grains, October 10th—80 grains, October 11th—80 grains, October 12—40 grains, October 13th—20 grains, Octo-

ber 14th—60 grains. On October 11th, the temperature fell to 99.8. In the evening of the same day, the temperature rose to 102. The patient became disoriented, unruly, talked somewhat incoherently and exhibited a picture of a "toxic" psychosis. The blood chemistry showed sugar 240, carbon dioxide combining power 56 and urea nitrogen 13. The urine showed a trace of sugar. The blood pressure was 170/80. An electrocardiogram taken at this time showed no change from previous tracings. To quiet the patient, an injection of 1/6 gr. of morphine sulfate was administered, but this aggravated her symptoms. Because of the presence of neurological signs mentioned above, the "toxic" psychosis was interpreted to be a thiamin chloride deficiency state. Accordingly, thiamin chloride was administered intravenously in 50 milligram doses for five days and was continued in 20 milligram doses by mouth thereafter. Within a few hours after the first injection, the patient quieted down, slept most of the night, and the next day she was mentally clear and remained so. Because of the hyperglycemia and glycosuria the patient was placed on a diet of 100 grams of carbohydrates, 70 grams of protein, and 50 grams of fat with insulin 5 units three times a day on October 13th, and 15 units three times a day on October 14th and 15th. Her blood sugar on October 14th was 200 and on October 19th it was 130. Her urine became sugar free on October 16th and remained so at the time of discharge from the hospital. The insulin was discontinued three days after it was instituted. On October 16th, it was noticed that her tongue was dry, sore and fissured; 50 milligrams of nicotinic acid was given daily with marked improvement. Daily blood counts were taken during the administration of prontosil and recorded as follows:

Date	Red Blood Cells	White Blood Cells	Hemoglobin	Polynuclears	Lymphocytes
Oct. 7	4,000,000	38,800	78%	86%	14%
Oct. 8	5,100,000	17,900	98%	77%	23%
Oct. 10	4,200,000	22,000	72%	84%	16%
Oct. 11	4,200,000	12,000	72%	76%	30%
Oct. 12	4,210,000	21,600	74%	80%	20%
Oct. 14	4,200,000	12,400	75%	84%	16%
Oct. 15	4,200,000	8,600	75%	80%	20%

The patient continued to improve, became afebrile, her blood pressure was 140/70, and she looked well. Her calf

tenderness and the plantar hyperesthesia disappeared. The knee jerks returned and a slight ankle jerk could be elicited



Plate 1
Mrs. R.G.

bilaterally, before she left the hospital. An x-ray of the chest (plate 2) on October 20th showed a complete resolution of the pneumonic process. The patient was discharged cured.

CASE II Miss G. F., the sister of a physician.

Family history: Her father has had arrested tuberculosis. Her mother died of an unknown cause during the patient's infancy.

Present history: The patient is a 33-year-old school teacher with a marked kyphoscoliosis. She went through extensive orthopedic treatment during her childhood without any effect on her deformity. Despite this handicap, she went through college, and has been teaching school for 12 years. She was well until 10 days before admission to the hospital, when she developed an upper respiratory infection. She paid little attention to this and kept on teaching until 2 days before admission, at which time she had a chill. She went to bed the next day and began to cough. She had a blood-streaked sputum. Her temperature rose to 102. When I saw her on the day of admission to the hospital, the patient was found to have a complete consolidation

of the right upper lobe of the lung. This was confirmed by x-ray (see plate 3). Her temperature was 106, her pulse 112, and her respirations 36. She appeared very acutely ill and was cyanosed. On physical examination the heart appeared enlarged. It was shifted by the deformity. Presystolic and systolic murmurs were present at the apex and a systolic murmur was heard at the aortic area. The blood pressure was 120/80. She had some calf tenderness and plantar hyperesthesia. The reflexes were normal. The remainder of the physical examination was negative. She was removed to the Boulevard Hospital, Long



Plate 2
Mrs. R.G.

Island City, and placed in an oxygen tent. Her sputum, which was typed by the Pneumonia Control Division of the New York City Health Department, revealed 80 per cent *Streptococcus hemolyticus* in the culture. There was also a concomitant type XI pneumococcus infection. A blood culture was taken and remained sterile. The urine examination was negative. Her blood count was: hemoglobin—78 per cent, red blood cells—3,800,000, white blood cells—17,000. The blood smear revealed 91 per cent polymorphonuclear leukocytes of which 65 were young forms. Prontylin therapy was instituted and 40 grains were

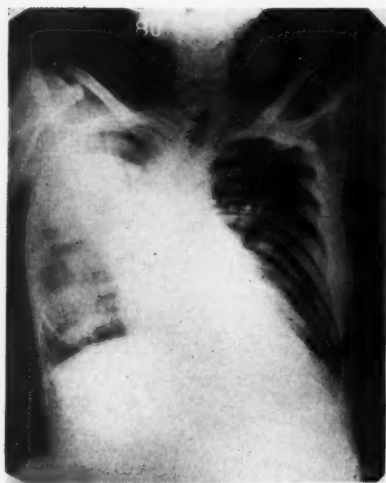


Plate 3
Miss G.F.

given on admission and 40 grains the next day. Then a supply of 2-sulfanilyl aminopyridine (MB-693) was obtained through the courtesy of Dr. Josephine B. Neal from Merck and Company; 45 grains were given on the second day but then the patient began to vomit and could not retain this drug. Because of this, the prontosil therapy was resumed; 60 grains were given daily for 4 days longer. At the same time, 2½ per cent neoprontosil was injected as follows: 7½ cc. on the 2nd day, following admission; 7½ cc. on the third day, 22½ cc. on the fourth day, 30 cc. on the fifth and sixth days in divided doses. 300 milligrams of cevitic acid was injected intravenously every day for the first 7 days after admission. On the 7th day and on the 8th day, 20 milligrams of thiamin chloride was injected at the same time. For the remainder of her stay, thiamin chloride was given, 20 milligrams by mouth. Her temperature

dropped from 106 to 102 on the 4th day following admission and continued to decline. For several days she was quite sick and she was dyspneic and weak. There was an extension of the pneumonic process throughout the right lung and also to a portion of the left upper lobe. However, she responded very nicely and began to eat well. On the 7th day, she was removed from the oxygen tent. On the 10th day following admission, she complained of pain in the left leg and a left thrombo-phlebitis was found involving the popliteal and a portion of

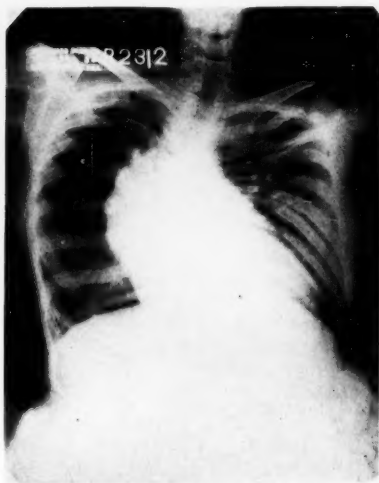


Plate 4
Miss G.F.

the femoral veins. There was a moderate amount of edema of the left leg. This was treated with elevation, wet dressings, and gentle motion. The patient continued to improve and left the hospital two weeks after admission. During the administration of the sulfanilamide, blood counts were taken daily as indicated below:

Date	Red Blood Cells	White Blood Cells	Hemoglobin	Polynuclears	Lymphocytes
Oct. 9	3,800,000	17,000	78%	91% (65 young forms)	9%
Oct. 10	4,290,000	8,450	82%	82% (22 young forms)	18%
Oct. 11		12,200		86%	14%
Oct. 12	3,720,000	12,500		81%	19%
Oct. 13		12,450		79%	21%
Oct. 14		12,400		80%	20%
Oct. 15		13,750		73%	27%
Oct. 18		18,850		76%	24%

X-ray of the chest, prior to discharge, showed complete resolution of the pneumonic process (see plate 4).

Summary

TWO cases of recovery from *Streptococcus hemolyticus* pneumonia compli-

cated by pneumococcus type XIX and XI respectively are reported. Both patients were poor risks and were gravely ill. One patient showed a dramatic response to treatment with thiamin chloride.

1185 PARK AVENUE.

MISCELLANY

HARRY NELSON JENNETT.

2701 FOREST AVE.

KANSAS CITY, MO.

Anent the Jerger-Wood Airing

GOOD woollens, even in the best of families, often need an airing.

But all I know is what I read in the papers—and this time in the MEDICAL TIMES, that fine journal that is airing good moth-eaten medical fabrics.

I do not profess to know anything about this Jerger-Wood fabrication, the woof! and weave and stuff, hanging on the line—in the October issue of MEDICAL TIMES, just to hand. Neither do I know, nor have I read, anything of the two batters-up, excepting this pro and con in said October issue.

But I do smell moth balls. And from where I sit that hole in this old sox indicates some one may have been standing on a moth.

So—were I out a-moth baiting I would say there is much need of just such an airing of medical yarns as these two gentlemen have been wearing, like red underwear and stuff.

THERE is an old school reader story of two workmen who had just completed construction of a tall brick chimney; preparing to descend, the rope slipped out of the pulley and they were left high and dry where moth doth not corrupt, etc. What to do to get the men down. John's wife came late sniffing trouble, with her rolling pin, but she sensed the situation at once and called: "John, ravel your sock, begin at the toe!"—you remember the yarn.

Well, Jerger-Wood seem to be up there doing their stuff, but they wear silk hose, today, so we gotta get 'em down somehow.

So, here goes. (Nurse, take the doctor's hat.)

(A)

It seems, first off (see Jerger's letter), Jerger mentions Ethics and the ethics relation committee.

(a) Never heard of him. So that settles that. Anyway Ethics is dead: it stinks.

Then he says he's not a specialist.

(b) So he disqualifies himself, what. (Then how does he practice Medicine?—Only S.p.m.)

Then he says he's not rich.

(c) That proves that he *is* a General Practitioner. Now we're getting somewhere. (Rest your hat, doctor; pray sit down.)

Then stealing patients is mentioned casually.

(d) "Objection sustained." (Jerger is not an O. nor a C., is he?)

JERGER is accused of being a paradox.

(e) There must be some mistake; perhaps *two* other doctors.

Too, there is a discrepancy of 9 pages in a book ("Doctor, Here's your hat.").

(f) As soon as this is corrected everything's gonna be all right.

Then there is the question of Wood's sanity.

(g) What difference does that make? You must not introduce supposititious evidence. (I have just read Wood's letter through and it's better than Hitler's stuff.)

"What has Wood done for humanity?"

(h) Now, now; he's only a poor boy

—Continued on page 575



MENTAL HYGIENE NOTES

Complaint Problem: Patient's father states that his son readily becomes confused and does not know where he is going or when he expects to return. "His mind doesn't seem to function. It goes in cycles. At times he is excited and at others very quiet. He doesn't remember things. He asks you the same thing a dozen times a day." Patient offers no complaints but on the other hand states he is feeling excellent with no troubles.

Present Illness:

PATIENT was in his usual good health until 1936. The onset was gradual, there being no obvious precipitating cause. His efficiency at work became impaired so that during the past year and one-half he has made no occupational contribution.

There seem to be definite cycles in his behavior. At times he does not say anything and is very quiet; at other times he gets excited. These phases seem to last three or four months. Several nights ago patient became excited and threatened to hit anyone with a chair should he come near him. After a while his father was able to quiet him.

Sleep is poor, hypnotics being exhibited. He will get up three or four

times during the night and wander about the house from cellar to attic. Appetite is good and weight is within normal range.

For some time there has been a gradual change in the character of his gait. He walks somewhat stooped and on a wide base. He tends to shift his legs along instead of lifting them as usual.

Nevertheless, he is able to go out of doors walking each day.

There is no morning-evening variation. Some three months ago he cried and shook all over if anyone sympathized with him. For this reason he had to discontinue going to church as some remark made during the sermon might provoke crying. No suicidal tendencies.

Patient's physical strength is well maintained. He is able to sign checks and write legibly although he has difficulty in spelling certain words. He also has difficulty in dressing and un-

dressing, there being a definite tendency to fumble and forget what he is doing.

No previous attacks of affective disorder. No history of venereal disease. There has been no diminution in libido during the past few months. On the contrary, his wife a week ago curtailed

CASE NOTES IN EXTRAMURAL PSYCHIATRY

Case XI

Presenile Psychosis (Alzheimer's type) in a 50-Year-Old White Married Male.

FREDERICK L. PATRY, M.D.,

Consulting Psychiatrist, the Anderson School; Formerly Psychiatrist, State Education Department, University of the State of New York.

Albany, New York

the frequency from coitus twice a week to once, claiming it was "too much."

Personal History:

AN only child. Birth normal. Breast fed. Development that of a normal child. No early neurotic traits noted. After graduating from high school he became a salesman. He remained with his last employer ten years and earned on the average of \$175 a week.

In 1916 patient married after a year's courtship. Marriage successful. A daughter, age 19, normal.

Patient lives in a one-family house with his wife, daughter, and for the past five years his mother-in-law, but there are no conflicts admitted.

Family History:

SAIID to be normal.

Physical and Neurological Examination:

A WELL developed, well nourished, somewhat obese white male, fair complexion, pyknic type. Height 63½ inches; weight 147 pounds. Pulse 80. Respiration and temperature normal. Blood pressure 148/88 left; 132/80 right. Slight abrasion over left temple. No penile sores. Blood Wassermann and urinalysis are negative.

Cranial Nerves:

SMELL normal. Pupils equal, central, and circular, react to light and accommodation. Vision subjectively good with aid of glasses. No gross defects in visual fields. Fundi negative. III, IV, and VI negative. V negative. VII negative. VIII negative. IX, X, and XI negative. XII negative.

Motor:

NO weakness, atrophy or fibrillations.

Grips equal; gait somewhat wobbly, base widened, and legs somewhat draggy; no tremors. There is some apraxia demonstrated in dressing himself. Definite fumbling and he is unable to tie his cravat without assistance. Muscle tone good; speech somewhat retarded in output but without slurring. No loss of sphincter control.

Sensory:

NO loss of deep or superficial sensibilities. No astereognosis; no loss of sense of position or vibratory sense; no tenderness of spine, muscles, or nerves; no pain or hyperesthesia.

Reflexes:

TENDON reflexes all active and equal. No clonus; no Hoffman; abdominals active; plantar flexor, reflex normal.

Mental Examination:

PATIENT is cooperative, well dressed, but in poor social contact. He seemed to be definitely confused and sat in the waiting room with his hat on, there being a mixed group of patients in the room at the same time. Stream of thought is connected and answers are relevant although replies are retarded and reveal some difficulty in expressing himself. Some spontaneity.

Patient cries effusively in response to casual questions. However, he stops crying quickly and almost in the next breath can smile rather complacently. For the most part, however, his affect is rather flat, the face looking somewhat deadpan. How do you feel? "All right, swell." He spontaneously asked if he could have a shoe horn and then laughed out of keeping with the situation. No delusions or hallucinations admitted.

What is the date? "Wednesday, Thursday, Friday. I don't know." Day of month? "August 28 [August 31] 1939." Is it afternoon or morning? "I haven't the slightest idea. It's after one o'clock (3 p.m.)." Take 7 from 100. "It has to be easier than that. Ten from 100 equals 90—93—is that right?" Patient is able to do correctly 4×5 , $21 \div 7$, and $49 \div 7$. He was unable, however, to add 13 and 34 or 27 and 14. "If I had a pencil I could do it." Patient is able to retain only three out of five items after three minutes.

Are you still working? "No." When did you stop? "I can't remember anything." Any worries? "No" (patient looks depressed and eyes water). Why are you not able to work? "I don't know." Do you think you are able to work? "No, but I hope I can." How long have you been sick? "My memory has been failing for a long time. I get my tie and collar on wrong. Sometimes I can't do it and my wife ties it." How is your health? "Excellent. I eat three meals a day. My feet are good." Why are you not at work? "I don't know." Patient spontaneously asked, "Do you think there is going to be a war?"

Diagnostic Formulation:

PRESENILE psychosis (Alzheimer types) associated with affective features characterized by cycles of depression and excitement. The marked confusion, rapid swing from crying to laughing, obliviousness to social conventions, repetitious questions, and sensorial defects, associated with apractic symptoms and rather high degree of dementia in a man of this age, in the absence of other causes for an organic dementia, warrant a diagnosis of Alzheimer's disease. The senile characteristic of wandering about the house throughout the night and the marked irritability, assaultiveness, poor and spotty memory for recent events, and increase in erotic excitement support the diagnosis of deterioration of the mental processes. Notwithstanding the affective cycles, patient has progressively been less in contact with social demands and coincidentally has required increasing care and supervision in order that he may not lose himself because of tendency to disorientation or incompletely taking care of personal needs with re-

spect to dress and appearance. From the differential diagnostic standpoint, one has to consider manic-depressive psychosis, circular and perplexed types, but in this case the steadily progressive organic signs and symptoms of dementia do not support such a diagnosis.

Prognosis:

BAD. Mental deterioration associated with cerebral organic changes such as brain atrophy, microscopic focal necroses, neurofibril alteration, and arteriosclerosis will continue to obtain.

Treatment:

THE most pressing problem at present is adequate care and supervision in order that he may not harm others or himself during affective swings of excitement or depression. Although he is being taken care of at home, it will likely be necessary to have him committed to a mental hospital in the near future. Sedatives may be exhibited to quiet excitement and to further sleep needs.

214 STATE STREET.



P. Chalmers Jameson

JAMESON'S work was planned in the spirit of the creative artist and executed with sureness and mastery. His voluminous published papers—the last appearing in the February 1939 issue of the *Archives of Ophthalmology*—reflect the growth of the man to eminence and graphically reveal his fine contribution to ophthalmology in the course of the past forty-five years.

Farewell — and hail!



POSTOPERATIVE B₁ DEFICIENCY

A hitherto unrecognized danger exists of inducing vitamin B₁ deficiency in patients maintained with parenteral feedings of glucose, as in postoperative conditions. For such patients, this danger can be prevented by the routine administrative of 5 to 10 mg. of thiamin chloride.

—Bull. N. Y. Academy of M., Jan. '39.

MEDICAL TIMES, DECEMBER, 1939

Assistant Editors:

CHARLES WILLIAM HENNINGTON, B.S. (Rochester), M.D. (Hopkins), F.A.C.S., and ROBERT LEE BROWN, A.B. (Michigan), M.D. (Harvard).

CANCER

Department Edited by

John M. Swan, M.D. (Pennsylvania) F.A.C.P.
EXECUTIVE SECRETARY, NEW YORK
STATE COMMITTEE OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

ON June 10, 1919, Mrs. M. W., white, female, widowed, aged 54 years, of slender build, rather anemic in appearance, was referred by Dr. B. for x-ray examination of the gastro-intestinal tract. The patient's complaint was indigestion and a loss of about 10 pounds in weight. She asserted her normal weight was around 106 to 110 pounds. Hemoglobin was 70 and there was occult blood in the stool.

Fluoroscopic and radiographic examinations revealed a niche deformity (niche caused by the ulcer crater projecting into the wall, representing a penetrating type of ulcer), on the lesser curvature of the stomach, about midway between the cardiac and pyloric portions, with localized spasmodic contraction of the circular muscle fibers, producing a moderate incisura on the greater curvature. (Figure 1.)

Although the roentgenologist's interpretation was gastric ulcer, a surgeon consultant insisted he had, in operations for penetrating ulcer in this region, encountered ulcers with a definite malignant base. The internist insisted on treatment for ulcer while the surgeon was just as insistent on operation. The patient became bewildered and chose a

quack cancer specialist who relieved her symptoms.

After twenty years, on April 20, 1939, this same patient was again referred to the roentgenologist for a

gastro-intestinal study. Her complaint at this time was occasional pain in the abdomen, knife-like in character, coming on shortly after intake of food. These symptoms were of long standing. She felt weak and said food in general disagreed with her. She was at this time 74 years of age (born August 6, 1864). Her present weight 95 pounds. She was rather emaciated but not acutely ill.

PENETRATING ULCER OF LESSER CURVATURE OF THE STOMACH:

Report of A Case

JAMES M. FLYNN
M.D., F.A.C.R.

Rochester, New York

Case Pro:ocol

Family history:

Father and mother died in 1891 of influenza, father aged 61, mother, 54. One brother died at 36 of pneumonia; another brother at 40 of heart disease. No history of cancer, tuberculosis, or diabetes in the family.

Past History

Usual childhood diseases. No serious adult diseases, medical, surgical or traumatic. Menstruation at 12, every 28 days, lasting 4 to 5 days. Menopause at 51 without symptoms. Had one child, normal delivery.



Figure 1

Radiographic appearance in 1919

Physical Examination

Pulse, 100, good quality; temperature, 98; blood pressure, 140/80. No cough, no night sweats. Respirations, 20, normal. Head and neck, negative. No cervical adenopathy or rigidity. Thyroid not palpable. No restricted movements. Eyes reacted to light and accommodation. Ears and nose, negative. Pharynx, mucosa clear. Fair oral hygiene, teeth poor. Lungs, normal breath sound. Heart, enlarged to left; sounds distant, no murmurs or irregularities. Sclerosis of arteries. No ankle edema. No scars. Abdomen, flat, some tenderness in epigastrium, no rigidity, no definite palpable mass. Liver and spleen, not pal-

pable. No lumbar tenderness. Pelvic examination, nothing unusual. No enlarged or palpable glands, no evidence of hernia. Normal reflexes present.

Laboratory Findings

Hemoglobin, 58; R. B. C., 3,810,000; W. B. C., 6,800; Urine, no sugar slight traces of albumin; sp.gr., 1.016; chlorides, 424 gm. Wassermann and Kahn, negative, Gastric contents, free hydrochloric, 9%; total acidity, 33%. Strongly positive occult blood in stool.

Fluoroscopic and radiographic examination of the gastrointestinal tract

showed the esophagus practically negative; stomach with large gastric ulcer with niche deformity; spasmodic incisura



Figure 2

Radiographic appearance in 1939

of greater curvature. Duodenal bulb showed nothing unusual in appearance. Colon, aside from a few scattered diverticulae in lower ascending portion, was negative. (Figure 2.)

IN view of the fact that in New York State, in 1937, 47.21 per cent of the deaths from cancer were due to cancer of the digestive tract (stomach, liver, intestines, rectum and peritoneum), the endeavor to determine the character of a filling defect is of paramount importance. Equally important is the decision concerning the best method of treatment.

The interpretation of the film is the most important factor in arriving at a conclusion.

IN 1939 the roentgenologist inquired of the patient whether she had had continuous symptoms for the past twenty years and she replied that Dr. F. (a quack) had cured her cancer and she was well and healthy for ten years. In 1930 she began to experience her present symptoms. What really happened was that this patient's ulcer must have quieted down, becoming inactive over a certain period, since the original ulcer, which is now a long standing, chronic affair, still persists.

One must decide for oneself, who was right on the initial examination, the internist and roentgenologist, or the surgeon who wanted to explore.

ELECTROCARDIOGRAM

—Concluded from page 564

Cases of Arterial Hypertension, *Am. Heart J.* 10:942-954, Oct. '35.

2. Sigler, L. H.: Electrocardiographic Changes Occurring with Alterations of Posture from Recumbent to Standing Positions, *Am. Heart J.* 15:146, Feb. '38.

3. Sigler, L. H.: Functional Bundle-Branch Block (Partial) Paradoxically Relieved by Vagal Stimulation, *Am. J. Med. Sci.* 185:211, Feb. '33.

MISCELLANY

—Continued from page 569

trying to get along like Abe Lincoln did and, who, they say, was a schizophreniac. (B)

Now, over in this corner, the Challenger, Dr. Wood, who had a moth-eaten book review hung on the line:

"At no time has the A.M.A. fostered specialism."

(a) Oh, Dr. Wood, that isn't a moth, that's a bee. Careful!

"The public took to Specialism kindly."

(b) Yea, man. They sop it up. Do they love propaganda!

"There are still abuses in Specialism."

(c) You're telling me!

"The A.M.A. is lauding the family doctor: putting him on a pedestal!"

(d) Where? in the cemetery! And, boy, is the sexton dusting up the chapel!

"The A.M.A. is holding the specialist down."

(e) Well, in that case, better give the calf more rope.

"The Specialist can have no practice."

(f) What goes on here, Watson?

"He must see patients only at the request of the physician."

(g) Quick, Watson, another aspirin!

"It is almost forcing the family doctor to remain the most important unit in this complex world."

(h) Thanks for them kind words, stranger: Me no speke Engylsh hyperbole. (I would enjoy reading Dr. Wood's beautiful salute to Brinkley, if any.)

"The trend of organized Medicine, today . . . There are many other factors . . . which are threatening, certainly not wholly government nor specialism."

(i) You said it. Besides its being an inside job, we have cristen sienz, osteopathy, cryopatric, propaganda, radio salesmanship and stuff, and average

—Concluded on page 589



Associated Physicians of Long Island visit Queens.

Autumn Outing and Dinner Held in Jamaica September 28.

Scientific Program in Mary Immaculate Hospital.

THE 124th regular meeting and autumn outing of the Associated Physicians of Long Island were held in Jamaica, L. I., on Thursday, September 28, 1939. Members were guests of the Mary Immaculate Hospital at lunch in one of the hospital dining rooms. At 2 P.M. members of the professional staff presented the following program:

1. Importance of Early Surgical Diagnosis
By Dr. Frank N. Dealy
Discussion by Dr. Thomas M. Brennan.
2. Coronary Artery Disease
By Dr. Goodwin A. Distler
Discussion by Dr. Edwin P. Maynard.
3. Toxemia of Later Pregnancy
By Dr. James P. McManus
Discussion by Dr. Charles H. Loughran.
4. Spina Bifida
By Dr. Benjamin Shapiro
Discussion by Dr. Thurman B. Givan.
5. Dentistry in a General Hospital
By Dr. Joseph Stahl
Discussion by Dr. Walter Ludlum.

The executive session at 4 P.M. was devoted mainly to the election of candidates for membership as follows: Dr. Maurice E. Connor, Dr. Francis L. Denzer, Dr. Chas. Ford Warren, Dr. Russell

Meyers and Dr. L. Gaston Papae of Brooklyn, Dr. Lawrence M. Waterhouse and Dr. John Mountain of Jamaica, Dr. Louis Fratello of Ozone Park and Dr. Goodwin A. Distler of Woodhaven. The president, Dr. Jefferson Browder, appointed on the Nominating Committee Dr. Herbert Fett, Dr. Charles Anderson, Dr. George Borden Granger, and Dr. John L. Sengstack; and upon the Auditing Committee Dr. Thomas B. Wood, Dr. Thomas Brennan and Dr. John M. Scannell.

Dinner was served in the Pomonok Club between Jamaica and Flushing. Many members had taken advantage of the fine autumn weather and had played golf at Pomonok during the day. After dinner, the members were entertained by a magician and by Mr. Arthur Lloyd, who impersonated a world renowned diplomat.

Associated Physicians to Hold Clinical Day in Brooklyn Saturday, January 27, 1940.

The Associated Physicians of Long Island will hold their clinical day in Brooklyn, January 27, 1940. Clinical material and operative clinics will be presented in the hospital by the staff of Brooklyn Hospital. This general hospital of 420 beds is well known in medical circles and maintains an excellent school of nursing. It is located on the corner of DeKalb Avenue and Ashland Place. Formal papers will be read in the afternoon and the annual meeting, election of officers and annual banquet will be held that evening in a club to be announced soon.

POPULATION TRENDS

The medical profession by sanitation and the control of infectious disease has brought about an extraordinary decline in deaths. This decline in deaths has been accompanied by an extraordinary but highly unequal decline in births. A favorable distribution of births at present levels of reproduction would help stabilize recent advances in civilization and strengthen all efforts at further improvement. The question whether a favorable distribution of births can be aimed at a level sufficient for replacement presents one of the major problems of our present form of society. A clear understanding of this problem by the medical profession may be one of the deciding influences in its solution.

—Frederick Osborn, M. D.,
Bull. N. Y. Academy of M., Jan. '39.



CONTEMPORARY PROGRESS

Treatment of Herpes Zoster With Thiamin Chloride

M. J. GOODMAN (*California and Western Medicine*, 51:105, Aug. 1939) reports the use of thiamin chloride (vitamin B₁) in the treatment of herpes zoster. This treatment was used because it has been established that herpes zoster is essentially a neuritis with degenerative changes, and that vitamin B₁ has been found to have a beneficial effect in neuritis and to prevent certain degenerative nerve changes. In the small series of cases treated (5 cases) thiamin chloride was given by hypodermic injection in doses of 3000 units. It was found that in these cases the pain was relieved more promptly and the lesions cleared up earlier than under treatment with local applications and salicylates. The duration of total disability was definitely decreased. The fifth patient, who was a man of seventy-one years, required a longer period of treatment than the other four, 9 injections of thiamin chloride being given. In the discussion of this paper two other physicians, J. E. Walsh and O. R. Myers, reported the use of thiamin chloride in herpes zoster (3 and 2 cases respectively) with good results.

COMMENT

This series is far too small to draw any valid conclusions. There is no doubt of the value of thiamin chloride in the treatment of severe neuritic conditions resulting from vitamin deprivation whether occurring in a diabetic state or resulting from pernicious

vomiting or some chronic deprivation such as is noted in alcoholic addicts.

Since the lesion of herpes zoster is in the ganglion cells of the posterior root, there is no true basis for comparing the local treatment of the cutaneous hepatic lesions with the systemic administration of thiamin chloride. Its use in similar painful problems is worthwhile attempting from a statistical point of view.

H.R.M.



NEUROLOGY

Postherpetic Neuralgia in the Distribution of the Cranial Nerves

O. R. HYNDMAN (*Archives of Neurology*, 42:224, Aug. 1939) reports 3 cases of postherpetic neuralgia involving the cranial nerves and treated surgically. In the first case, the neuralgia involved the distribution of the ophthalmic division of the trigeminal nerve; pain and hyperesthesia above the eyebrow were not relieved by section of the sensory root of the fifth cranial nerve, but were relieved by cocainization or section of the supraorbital nerve and artery; later the maxillary and mandibular regions became hypersensitive. In the second case the distribution of the ophthalmic nerve was also involved; the pain was completely relieved by section of the ophthalmic and maxillary nerves just distal to the gasserian ganglion. In the third case the neuralgia involved the distribution of the fifth, the sensory portion of the seventh and ninth cranial nerves, all the cervical nerves on one side and the first and second thoracic nerves. The pain in the chest and arms was relieved by splanchnectomy, but complete relief of the neuralgia of the face, occiput, ear

and neck was obtained by removal of the stellate and upper four thoracic sympathetic ganglia. The author notes that results would probably have been satisfactory if fewer thoracic ganglia had been removed. From the findings and results in these cases the author concludes that: "The pain of postherpetic neuralgia is mediated by afferent sympathetic fibers." These fibers course along vessels and in association with nerve trunks, but "ultimately enter the central nervous system at or below the first thoracic segment." Hence removal of the stellate ganglion and the upper thoracic sympathetic ganglia (possibly only two or three) "completely desympathectomizes" the face, scalp and neck on the ipsilateral side and thus relieves neuralgia in this area. Section of the sensory root of the fifth nerve does not relieve neuralgia in this area, because the afferent sympathetic fibers do not enter the central nervous system by way of this root. The varying results in atypical neuralgias of the face and scalp obtained by such procedures as injection of the sphenopalatine or gasserian ganglion or periarterial sympathectomy may be attributed to "the obliteration of varying numbers of afferent sympathetic fibers."

COMMENT

The above paper is another important contribution bearing on the passage of painful impulses. It stresses again the importance of the sympathetic afferent pathways in close association with the blood vessels. It has a bearing on the occurrence of a typical facial neuralgia, so-called, not relieved by the usual sections of the posterior root of the trigeminal nerve.

H.R.M.

Treatment of Schizophrenia with Glandular Extracts

S. FISCHER (*Archives of Neurology*, 42:644, Oct. 1939), in previous studies on patients with schizophrenia, found that there was always a disturbance in the gaseous metabolism, and that this began with a decrease in the specific dynamic action of protein. This finding agrees with those of other investigators. The specific dynamic action of protein depends, in part at least, on the activity of the anterior lobe of the pituitary. At first the author tried praephyson, a preparation of the whole anterior pituitary,

but this had no definite therapeutic effect. Later he used praehormone, an extract of the urine of pregnancy. Praehormone was given by injection daily, the usual course of treatment being fifteen injections. If no improvement was observed a second series of fifteen injections was given after an interval of three or four weeks. This method of treatment was first used in Breslau, Germany, where 21 patients were treated. Subsequently 72 patients were

treated in Panama. Of the entire series of 93 patients, 59 showed complete remissions, 20 additional patients definite improvement. The patients treated in Panama were Indian, Negro or mixed blood; the results obtained in this group were essentially the same as those obtained in the white patients in Breslau. In both groups the highest percentage of complete remissions was obtained when the disease was of less than six months' duration. It has been impossible to follow up these patients for several years, but the author has been informed that 2

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patients treated in Breslau in 1934 are well and able to work. The results with the author's method compare favorably with those reported for the insulin and the metrazol shock methods of treatment. It has the advantage of being free from danger for the patient. The praehormone treatment was least effective in cases of the catatonic type. In a few cases of this type the author combined metrazol with praehormone, giving injections of the latter on days when metrazol was not given. The results were encouraging. It may be possible to combine insulin with praehormone, or to devise a plan by which the three methods may be used together in certain cases. The author believes that the praehormone treatment should be tried first, as it "is in no way dangerous and the chances of cure are good."

COMMENT

Another adjunct in the treatment of a mental disorder along organic lines. More and more therapeutic efforts are directed by a consideration that the disorder is not of a primary psychogenic quality.

Purely psychological approach to the treatment of this apparently clinical disorder is proven to be utterly futile.

We are in thorough accord with any approach which aims at the correction of an underlying physiochemical defect which is probably responsible for the striking psychological characteristics of dementia praecox.

H.R.M.

Bulgarian Belladonna Treatment of Chronic Encephalitis

J. B. NEAL (*New York State Journal of Medicine*, 39:1875, Oct. 1, 1939) reports the treatment of 75 patients with chronic encephalitis with Bulgarian belladonna in connection with her work with the Matheson Commission for Encephalitis Research. Most of the patients had shown typical symptoms for ten years or more, many had tried other forms of treatment. The drug was given in the form of a white wine extract of the root of Bulgarian belladonna (containing 2.3 decimilligrams of total alkaloids per cc.) or as tablets prepared from this extract (containing 3.1 to 3.5 decimilligrams each). Occasionally tablets imported from Bulgaria were used. The initial dose was 2 cc. of the extract or 1 tablet taken just before retiring; this was

increased daily by 1 cc. of the extract or 1 tablet until there was marked dryness of the throat or blurring of vision; the optimum dose varied widely in different cases; until this dose was established in each case, the patient was kept under close medical supervision. Of the 75 cases treated 29.33 per cent. showed marked improvement; 48 per cent. moderate improvement; 22.67 per cent. slight improvement. Improvement was both subjective and objective; rigidity was definitely relieved, tremor to a lesser degree in most cases; oculogyric crises were not abolished, but usually were reduced in frequency and severity. The author considers the Bulgarian belladonna "the most effective method of therapy" in chronic encephalitis.

COMMENT

The carefully controlled experimental use of this medication deserves the consideration of all physicians who have had occasion to treat this illness, the most disabling of all affections of mankind.

The results reported by Dr. Neal are rather startling. The reviewer in a smaller group of cases had likewise been impressed with the efficacy of the essential ingredients in Bulgarian belladonna.

H.R.M.

A Revaluation of the Treatment of Head Injuries

J. BROWDER and R. MEYERS (*Annals of Surgery*, 110:357, Sept. 1939) report clinical observations and experimental studies from which they conclude that the pathological conditions resulting from brain injuries are not well understood except for certain definite types of lesion—depressed fractures of the vault of the skull; epidural, subdural and intracerebral hematomata. These conditions alone can be benefited by surgical procedures. It has been widely held that the general manifestations of craniocerebral trauma are due to brain compression from increased intracranial pressure, and that to relieve this increased intracranial pressure a decompression operation or the use of hypertonic solutions is indicated. The authors' observations and experimental studies have shown that increase in intracranial tension *per se* does not produce the characteristic symptoms observed in head injuries, and that the use of hypertonic solutions in patients

with severe head trauma may cause untoward and unexpected reactions. Since only the well defined types of lesions noted above are indications for surgery in head injuries, it is important to determine whether such lesions are present. For this purpose the authors have found aerography, either encephalography or ventriculography, most useful, and that such procedures can be carried out "with reasonable safety even in recently injured patients." In cases where surgery is not indicated, or as a supplement to surgical treatment where it is indicated, the following supportive measures are advocated: A position in bed that permits an unobstructed return of venous blood from the head and a free respiratory exchange (a moderate Fowler position, turning the patient from side to side at intervals usually best). Sufficient sedation to prevent excessive motor activity.



Effect of Fever Therapy upon Carbohydrate Metabolism

M. B. KIRSTEIN and L. BROMBERG (*Journal of Laboratory and Clinical Medicine*, 25:7, Oct. 1939) note that loss of fluids during hyperthermia usually causes an increased concentration of certain blood constituents, such as non-protein nitrogen, urea, etc. Hyperglycemia is also observed during fever therapy, but this, the authors contend, is not due to increased concentration resulting from fluid loss. Under normal conditions the regulatory mechanism is such that the blood sugar is maintained "almost immutable" in the postabsorptive state. Even the hyperglycemia resulting from intravenous injection of glucose is promptly reduced by this regulatory mechanism. During moderate physical exercise, when glucose is withdrawn from the blood stream at an increased rate, it is replaced through glycogenolysis at the same rate, so that no demonstrable change in the blood sugar level occurs.

Mechanical restraint to prevent further injury used with proper precautions. Control of body temperature by methods that avoid too rapid a reduction of temperature. Maintenance of adequate water balance and nutrition for which the use of a nasal tube is usually necessary.

COMMENT

The reviewer is in thorough accord with the views of these authors. The helter-skelter use of hypertonic solutions as a routine which has been recommended by others would seem to be definitely discredited.

It has been my own experience, sad on two occasions, to have had serious sequelae result from indiscriminate use of hypertonic solutions.

Therapeutic procedures as recommended would seem to be perfectly adequate to care for those patients not requiring surgical intervention.

H.R.M.

Since the increase in glucose concentration during artificial fever is relatively slight and gradual, it is to be supposed that the regulatory mechanism would take care of this increase and maintain a normal blood sugar level, until this mechanism was disturbed by the hyperthermia. During hyperthermia the inorganic phosphates of the blood show a definite decrease; this is best explained as caused by an increased rate of glucose utilization due to the increased metabolism during fever. This increased rate of glucose utilization also explains the hyperglycemia during fever therapy, as the accelerated withdrawal of blood sugar by the body tissue results in a depletion of the glycogen of the liver, through the process of compensatory breakdown of glycogen in the liver. The compensatory process "frequently overshoots itself" with resulting hyperglycemia. In some cases the hyperglycemia is slight, in others considerable (20 to 30 mg. per cent. above fasting level), during hyperthermia. These variations are due to individual differences in the regulatory mechanism. The depletion of the glycogen reserve may be so excessive as to cause ketosis, but this is not usual; any depletion of the glycogen reserve is certainly undesirable. Therefore the authors believe that patients undergoing fever therapy should be given liberal carbohydrate diets between treatments; if there is a tendency to increase in weight,

the fat allowance should be reduced. In diabetic patients, there is a tendency toward increased glycogenolysis in the liver; under fever therapy, this would become excessive; when fever therapy is indicated in such patients, the administration of adequate carbohydrates and insulin is, therefore, important.

COMMENT

Since hyperpyrexia increases general metabolism, it is a natural physiological response of the liver to release as much carbohydrates as necessary to keep up with the increased metabolic rate. When the temperature returns to normal, the regulatory mechanism again begins to function and the normal blood sugar level is naturally attained. In view of the fact that diabetics must sometimes be given fever therapy, a more detailed study of their blood sugar regulating mechanism must be made possible. Physiological chemists should be interested in this problem and be given a greater opportunity to watch cases receiving artificially induced fever. In fact, the effect of fever therapy on all blood chemical reactions is still a field for extensive research.

N.E.T.

A Low Temperature Technic for Artificial Fever Induction

M. M. COOK (*Archives of Physical Therapy*, 20:544, Sept. 1939) maintains that in artificial fever therapy, prevention of heat loss is more important than increased heat production. Heat loss is best prevented by maintaining a relative humidity of 100 per cent. in the fever cabinet, which stops heat loss by evaporation. With this method lower temperatures can be employed. The author employs a cabinet of the Kettering Hypertherm type, modified so as to maintain the desired humidity. All heat is obtained from an electric water vaporizer of the immersion type, controlled by a dry bulb thermostat. Virtually all heat is delivered "as latent heat of vaporization by condensation of supersaturated moisture in the cabinet." With this form of fever therapy the skin temperature does not greatly exceed the systemic temperature, patients are more comfortable, and the need for sedatives is reduced. The pulse rate remains moderate. As sweating is reduced, the salt and water loss is less than with other forms of fever therapy, the blood volume remains more nearly

normal, and thus the incidence of vascular collapse and shock is reduced. Uncontrollable fever and "overshooting" the intended temperature level are avoided as the skin temperature is not excessively increased. With this method, therefore, many of the dangers of the usual forms of hyperthermia are avoided, and low temperature, high humidity fever therapy can be employed in many cases which are considered poor risks for other methods of inducing fever.

COMMENT

This paper amplifies the conclusions that were so stubbornly resisted for a time, namely, that high humidity is most necessary in fever therapy. Since this method of treatment is becoming so universally used, it is fitting that emphasis be made over and over again that refinement of technic lessens the risk. It is rational that surrounding the naked body with air of the highest possible humidity will prevent the heat loss which this author so truly says is more important than increased heat production.

N.E.T.

Clinical Applications of the Paraffin Bath

W. J. ZEITER (*Archives of Physical Therapy*, 20:469, Aug. 1939) notes that the "paraffin bath" has been used for the local application of heat for many years, chiefly in Europe. After the value of this treatment had been demonstrated in the World War, paraffin baths were established in the physical therapy department of the Cleveland Clinic, and have been used for fifteen years. The bath is made of stainless metal and electrically heated. Ordinary commercial paraffin is used with a melting point at about 126°F., as this temperature is well tolerated by the skin in a paraffin bath, although a water bath at this temperature would cause a burn. The extremity to be treated is carefully washed and dried, then dipped in and out of the bath until a thin coating of paraffin congeals on the skin; this is repeated until the coating is sufficiently thick to allow the part to remain in the bath with comfort; the part is kept immersed in the bath for ten minutes to half an hour. The coating is then removed, and massage and muscle re-education of the extremity employed. After removal of the paraffin coating the skin is oily, soft and pliable, thus in excellent condition for massage. A paraffin bath

can be used not only in the hospital, but also in the office and in the home. For home use a large double boiler is employed for preparing the paraffin bath. Paraffin can also be used for applying heat to the body surface when other forms of heat are not available. For this purpose the melted paraffin is painted on the area to be treated with a warm paint brush, using "about a dozen coats of the liquid paraffin." The paraffin bath is used especially for treating the hands and feet. Excellent results have been obtained in arthritis; also in stiffness of the joints following lacerations or infections, in the treatment of scars restricting motion of joints and tendons, in involvement of joints secondary to lesions of the nerves, in sprains and in contusions. Local application with paint brush has proved of value in fibrositis of the lumbar area. Because of the high degree of heat, the paraffin bath must be used with caution in old, weak and debilitated patients, also if circulatory and sensory changes are present. Open wounds, cuts and infections of the skin are best treated by other methods.

COMMENT

This paper presents to the profession an extremely elucidative and scientific interpretation of what may be expected from the use of paraffin baths. No other method in physical therapy creates such pleasant and effective high temperature within the extremities. The one drawback to its use is the expense, as the great amount of wax can be used only once. In England an arrangement is made with the oil companies to supply the paraffin in cakes. After it has been used and has acquired the odor of sweat from the parts treated, the doctor is allowed to return the wax to the oil company. They resell it for making candles and the doctor is credited with a certain amount. This makes the use of paraffin baths much cheaper in England.

N.E.T.

Physical Therapy in Psychiatry

C. H. BARNACLE (*Physiotherapy Review*, 19:282, Sept.-Oct. 1939) has found that physical therapy is "an important adjunct" in the hands of the psychiatrist, not only because it has desirable physical effects, but also "because of its more subtle psychological aspects." Hydrotherapy of various types is the

most frequently used form of physical therapy in psychiatric cases. It must be looked upon as an adjunct to treatment and "not as a restraining method." Tubs and packs must be given at regular intervals and not necessarily follow periods of excited or destructive behavior. Most patients like the "continuous tub" best; this may be prescribed for a duration of one to twenty-four hours; the bath has its most beneficial effect with the water at a temperature of 96°F., though higher temperatures may be indicated in some cases. The patient must be under careful supervision during the bath, with frequent temperature and pulse readings to avoid cardiac collapse or heat stroke which may occur in debilitated patients. Other forms of hydrotherapy employed are the cold wet pack; warm packs (less frequently used); needle sprays and Scotch douches as warm and as cold applications; cold sitz baths; salt glows produced by circular rubbing of salt into the skin in conjunction with needle sprays and Scotch douches. Electric light cabinet treatments must be used cautiously; toxic, alcoholic and delirious patients, the author believes, should not be given such treatments until "more conservative treatment" has been used for a week or ten days. Ultraviolet irradiation is of value in creating better general muscle tone in debilitated and inactive patients; thus it can be used as "a definite adjunctive stimulating therapy." Whirlpool baths, infra-red lamp treatments and diathermy (except for hyperpyrexia in neurosyphilis) are of benefit only for the treatment of definite physical conditions. The use of galvanic and sinusoidal currents is not indicated for psychiatric patients, but may be of value in neurological conditions. Physical therapy for psychotic patients must always be prescribed by the physician "who has an adequate understanding of the personality problem." It is, therefore, strictly individualized. Certain general principles may be noted. In the treatment of excited states, sedative treatment is indicated—this includes continuous tubs, warm needle sprays and Scotch douches and fomentations. Depressed patients must be stimulated; cold sprays and Scotch douches are the most effective stimulative treatment; alternating hot and cold sprays, salt glows and massage

may also be used. Physical therapy is usually contraindicated in paranoia, as the mechanical procedure and apparatus may be interpreted as part of the persecution by such patients.

COMMENT

Physical therapy as used in the treatment of psychiatric patients really brings about few physiological results beyond the toning

up of the nervous system. It is mostly psychotherapy and it is extremely effective. There can be no standardization of effects because the treatment is directed towards the patients' psychic rather than physiological disorders. No hospital for mental diseases can be considered efficient without a complete hydrotherapy department and ultraviolet light is useful for all debilitated patients.

N.E.T.



Active Immunization Against Diphtheria

F. K. HARDER and his associates in the Department of Health of Cincinnati, Ohio (*American Journal of Public Health*, 29: 1119, Oct. 1939) report their experience with immunization against diphtheria with toxin-antitoxin, Ramon toxoid and alum-precipitated toxoid. All children inoculated showed a definitely higher percentage of negative Schick tests a year or more after the inoculation than the uninoculated controls. "No clear-cut evidence" was obtained that any one of the standard antigens produces a higher or more lasting immunity than the others. The authors' experience, in agreement with the findings of others, indicates that alum-precipitated toxoid is the best "single injection method" of immunization. They have continued its use but supplement the first injection by a second, whenever possible, although mothers sometimes fail to bring their children back for a second treatment. Since May 1936, they have been using two injections of 1 cc. each of alum-precipitated toxoid, given at an interval of four weeks. It is too early for an evaluation of the results. Schick tests on 100 pre-school children given two such injections showed 90 per cent. Schick negative three months after the last injection. No method of immunization against diphtheria gives complete protection against the disease. No evidence has been found that the disease is less severe or the case fatality reduced in children that

have been inoculated but who contract the disease. In 474 cases of diphtheria in persons under twenty years of age who had not been inoculated, there were 22 deaths, a case fatality rate of 4.64. In 238 cases occurring in persons in the same age group who had been inoculated, there were 11 deaths—a case fatality rate of 4.61—a negligible difference. A study of the incidence of diphtheria in different population groups showed the highest incidence in low income groups of the white race. Improvement in living and housing conditions is evidently important in the control of the disease.

COMMENT

This contribution by Harder and his group is of value in shedding further light on the present status of our knowledge with reference to diphtheria immunization. As a specific preventive it undeniably fixed itself firmly in the public health program; and it is recognized as an established and accepted procedure. Though it is not unlikely that diphtheria varies in its prevalence in natural cycles, as do other communicable diseases, we have reason to believe these cycles can be influenced through the application of known scientific preventive and control measures. The studies and observations of a host of workers, over a period of decades, have demonstrated this to be true beyond any measure of doubt. Scientific progress in preventive medicine is constantly seeking improvement of the agents and procedures employed; thus we have witnessed the evolution of active diphtheria immunization from the use of toxin-antitoxin mixtures to the present development of the alum-precipitated toxoid. Each particular immunizing agent has its own advantages and disadvantages. Studies with alum-precipitated toxoid in recent years have shown that active immunity is induced much sooner, perhaps, than with toxin-antitoxin and Ramon toxoid. However, it has been found that immunity with one dose of alum-precipitated toxoid is probably not as lasting as with the other methods. This has been determined essentially on the basis of the Schick test. As

Harder points out, there is still room for considerable study and observation to determine definitely the method or methods which would give the most lasting immunity or protection against the disease. Furthermore, a negative Schick test is probably not an absolute guarantee that the individual has iron-clad protection against acquiring the disease. More recent studies appear to bring in other factors which perhaps are of equal importance. Experience and observation seem to indicate that nutrition plays an important role. It is conceivable that in the future, certain vitamin deficiencies should be considered in determining as to whether or not individuals are more or less susceptible to the acquisition of diphtheria, in addition to a knowledge of how much antitoxin there exists in the blood stream as interpreted by the Schick test.

M.L.G.

Tuberculosis Survey in Vermont

L. RABINOVITCH, E. J. ROGERS and H. W. SLOCUM (*American Review of Tuberculosis*, 40:435, Oct. 1939) report a tuberculosis survey in the State of Vermont. In Vermont, as in other New England states, there has been a steady decline in the tuberculosis death rate in the last decade; but the rate remains unusually high in some counties. Washington County has a tuberculosis death rate almost five times that of the remainder of the state; this county is the center of the granite industry; routine x-ray examinations of the workers in this industry show a high incidence of silicosis and of tuberculosis. A study was made of 1,050 preadolescent children drawn from all parts of the state; x-ray examination of the chest showed no evidence of reinfection pulmonary tuberculosis in this group. A study of 5,065 adolescents from high schools and normal schools was next made; x-ray examinations were made for all who showed a positive tuberculin reaction; active reinfection pulmonary tuberculosis was found in 0.4 per cent. Another study of 591 adult contacts of children with positive tuberculin reactions, showed active pulmonary tuberculosis, according to x-ray findings, in 17 or 3 per cent. Complete studies, including x-ray examinations, of 2400 patients referred to Pulmonary Clinics in the state showed 355 cases of pulmonary tuberculosis (11 per cent.), of which 204 were in an active

stage; but of these, 111, or more than 50 per cent., were in the minimal stage. The history of these 355 cases showed that two-thirds had been in contact with a case of pulmonary tuberculosis. In the cases in the minimal stage, physical examination was negative in more than four-fifths; it is evident that minimal stage tuberculosis can rarely be found by physical examination. The authors suggest that cases of tuberculosis can best be found in the minimal stage by x-ray examination of the following groups: contacts with known cases of the disease; all employees of dusty industries; all patients entering any hospital for any reason; any person with respiratory symptoms, such as "grippe" or persistent cough, present more than two weeks, or recurring frequently. As many persons who may have pulmonary tuberculosis are most frequently seen first by their local physician, consulting x-ray examination facilities should be available to aid in the diagnosis of pulmonary tuberculosis in its minimal stage.

COMMENT

The observations of the authors confirm the results of tuberculosis studies conducted in other sections of the United States. Some years ago studies by the United States Public Health Service in Barre, Vermont, demonstrated a proportionate mortality of tuberculosis among the employees of the granite industry approximately three times that in males otherwise occupied. It has been shown conclusively that the incidence of silicosis among granite workers is definitely correlated with the high tuberculosis mortality. It should be expected, then, that family contacts of these workers would have a higher tuberculosis rate than the remainder of the population.

All health workers agree as to the importance of detection of pulmonary tuberculosis in the minimal stage. Popular health education has in recent years, undoubtedly, contributed much toward the ultimate solution of the tuberculosis problem. A study of admissions to the Rhode Island State Sanatorium, at Wallum Lake, R. I., over a period of years discloses an increase in the proportion of admitted minimal cases. It is believed that the same trend is being experienced in other states. The status of our present knowledge of the subject would indicate that x-ray examination of the chest is by far the most reliable means of detecting early pulmonary tuberculosis.

M.L.G.

Hematological Aspects of Benzene (Benzol) Poisoning

LOUIS A. ERF and C. P. RHOADS (*Journal of Industrial Hygiene*, 21:421, Oct. 1939) report a study of 9 patients who had been exposed to benzene fumes in their work; 6 of these were rotogravure printers who worked in atmospheres containing between 24 and 1060 p.p.m. and often washed their hands in the chemical. In studying these cases no correlation could be found between the severity of the disease and the intensity of the exposure. Symptoms developed after six months to three years of exposure, and had been present for one to six months before the patient sought medical treatment. The chief symptoms were weakness, fatigue, headache, anorexia, epistaxis, bleeding gums and ecchymoses. The blood findings varied, but anemia, leukopenia, thrombocytopenia and increased reticulocyte percentage were present in all. The differential counts were "markedly dissimilar"; monocytosis was noted in 3 cases, eosinophilia in one, and lymphocytosis in one. The fragility of the red cells in hypotonic saline was within normal limits in all but one case. Varying degrees of anisocytosis and poikilocytosis were found in all. The color index was above 1 (1.1 to 1.5) in 7 cases and the mean corpuscular volume increased in 7 cases. In 8 patients sternal puncture was done; the histological findings varied from a hypoplasia with "a left shift" of the cellular elements to a hyperplasia with normal maturation. All patients were removed from exposure to benzene; in addition the 6 printers were given liver extract (5 cc.) and thiamin (20 mg.) by intramuscular injection twice a week for two to five months. The other 3 patients were given raw liver (100 to 300 gm.) with ventriculin (20 to 30 gm.) daily by mouth; 2 of these were also given intravenous injections of ascorbic acid for one week (1 gm. daily). The true value of this treatment is "unknown," the authors state. Eight of 9 patients recovered, as shown by clinical and laboratory findings, in six months. One patient developed acute myeloid leukemia and died. The 6 rotogravure printers returned to work after recovery, as the use of benzene was discontinued in the printing plants; none have received

further treatment and none have showed recurrence of symptoms in a year. The authors consider that in the cases reported there is much evidence that benzene causes an increased rate of destruction of red cells which is one factor in the production of anemia in benzene poisoning. The increased serum bilirubin, poikilocytosis, increased reticulocyte percentage and increased excretion of urobilinogen found in these cases are all evidence of increased hemolysis.

COMMENT

This study is of value in establishing benzol poisoning as a clinical entity particularly with reference to occupation where the patient is exposed to the fumes of this agent. The authors' suggestion as to the physiological mechanisms involved in the production of anemia is interesting. Further studies as to the value of the treatment as outlined by the authors would certainly be desirable.

M.L.G.

Effects on Health of Gases Produced by the Electric Arc

L. W. LATOWSKY (*American Journal of Public Health*, 29:912, Aug. 1939) reviews the experimental work that has been done on the effects of the electric arc. Various modifications of the electric arc, he notes, are used in motion picture projection, photoengraving, ultraviolet and infrared therapy, flood lighting with searchlights and electric welding—thus the question of possible health damage from the electric arc is of practical importance in industrial medicine. It has been found in experimental studies that there are both gaseous and particulate products of arc combustion; the oxides of nitrogen are the chief toxic gaseous substances. The ash is approximately 65 to 70 per cent. rare earth substances, especially cerium oxides and fluorides. In experiments on laboratory animals it has been shown that inhalation of arc fumes, occurring in concentrations such as exist in the arc exhaust flues, causes death on both acute and chronic exposure. Acute exposure causes methemoglobinemia and lung edema; chronic exposure, a pneumonitis with patchy atelectasis and chronic inflammatory changes in the respiratory tract. Danger from the electric arc can be prevented by efficient forced ventila-

tion of the exhaust flue. Various city regulations and state laws for the regulation of ventilation in motion picture projection rooms are summarized. The experimental findings indicate that each projector lamp "should be connected to a flue in which the fumes from arc combustion are exhausted by means of a motor driven fan to the out-of-doors."

COMMENT

Until recently scant attention had been given to the effects of the electric arc on the workers in such occupations as require exposure to it. The author's recommendations with regard to the prevention of toxic effects, utilizing known precautionary methods, are definitely constructive. Physicians and nurses engaged in industrial work where the employees would be exposed to the hazards of the electric arc should be impressed with the pathological problems that could confront them.

M.L.G.

Epidemic Syphilis

E. G. CLARK (*Annals of Internal Medicine*, 13:238, Aug. 1939) points out that syphilis "exhibits many of the characteristics of epidemic disease." Four cases of early syphilis coming to the Vanderbilt University Hospital (Nashville, Tenn.) are reported; from a study of the contacts of these patients 39 additional infectious cases were found;

these were family as well as sexual contacts. These studies indicate that every case of syphilis is part of a localized outbreak. In 242 cases of early syphilis admitted to the Hospital in twelve months, 210 sexual contacts were traced and examined; of these 139 or 66.1 per cent. were found to have early syphilis. Of the 565 family contacts of the 242 patients, 155 were found to have syphilis, which was in the early stage in 98 cases. Only 36 of these cases had previously consulted a physician and all were placed under treatment. The importance of developing methods for the investigation of the contacts of syphilitic patients is evident from these results.

COMMENT

Here again the importance of epidemiology in syphilis control is emphasized. Many departments of health have already adopted the policy of treating infectious syphilis, primarily, as a communicable infection. The successful results obtained at Vanderbilt University Hospital can now be matched by similar results obtained under the same policy in other sections of the country. Syphilologists agree that in order to attain successful results in the control of the disease greater emphasis should be given to methods which are essentially concerned with investigation of contacts of early forms of the disease.

M.L.G.



Oguchi's Disease in the United States

B. A. KLIEN (*American Journal of Ophthalmology*, 22:953, Sept. 1939) notes that in 1908 Oguchi described "a peculiar congenital stationary night blindness" with diffuse grayish white discoloration of a considerable portion of the eyegrounds. The white color disappears after occlusion of the eyes for several hours (Mizuo's phenomenon). A number of cases of Oguchi's disease have been reported in Japan, and the author finds record of 7 cases reported in Europe. A case is reported occurring in

a native of the United States—the first to be reported in this country. The patient was a woman, forty-four years of age; her parents were of English and Dutch extraction; she had noted night blindness since early childhood and stated that it had not increased in degree. Examination of the fundus showed wavy, yellowish white discoloration surrounding the discs and maculae; Mizuo's test was positive. Peripheral fields for form were normal; there was slight enlargement of the blind spots; there was complete red-green color blindness, and considerable defect in the blue-yellow perception. Adaptation time was markedly prolonged. The patient knew of no other member of her family who had night blindness. She has 5 children; the 3 boys showed red-green color blindness, and 2 had a high compound hyperopic astigmatism as in the case of the mother; the 2 girls showed no abnormalities of vision. A review of the literature of

Oguchi's disease shows it is not usually associated with color blindness or any other abnormality of vision. The disease is hereditary as a recessive factor. Pathological examination of the eye has been made in only one instance; this showed that an extensive portion of the retina temporal to the optic nerve had an abundance of cones, few rods, and cone nuclei misplaced outside of the external lining membrane—a distribution of visual cells normally limited to the macular area in man but physiologic in the eyes of certain animals. These findings suggest that this type of night blindness is not a disease in the narrower sense of the term, but "a congenital anomaly, possibly of an atavistic nature."

COMMENT

This extremely rare condition should be considered in conjunction with hereditary macular degeneration and especially when considering cases of the general type of retinitis punctata albescens. There would be no likelihood of mistaking a typical case of this very distinctive disease but there are other somewhat similar cases that will puzzle the diagnostician because they have many minute white spots scattered throughout the fundus, sometimes so profusely as to give the impression of a solid white color. Every phase of color and night blindness may be found and heredity is often clearly indicated. It is the opinion of the commentator that Oguchi's disease is but a form of hereditary macular degeneration of the type described as retinitis punctata albescens. The observation of Mizuo's phenomenon in this case adds another test to be applied in all similar cases.

R.I.L.

Corneal Examination and Slit Lamp Microscopy in the Diagnosis of Late Congenital Syphilis

J. V. KLAUDER and ALFRED COWAN (*Journal American Medical Association*, 113:1624, Oct. 28, 1939) have found that an old interstitial keratitis may be detected by oblique illumination and ophthalmoscopic examination, but often can be definitely identified only by the corneal microscope and slit lamp. Interstitial keratitis is characterized by an infiltration through the entire thickness of the cornea, particularly the middle and deep layers, by the formation of blood vessels in all layers, and by association with uveitis; if it is due to con-

genital syphilis, the keratitis is bilateral, hence both corneas remain "more or less permanently scarred and vascularized." Such a lesion indicating old interstitial keratitis may be regarded as one of the stigmata of congenital syphilis. While the examination of the cornea by slit lamp microscopy may aid in the diagnosis of congenital syphilis in children who show no definite stigmata of the disease, it is of most value as evidence of congenital syphilis in adults who show a positive Wassermann reaction without a history of infection. In the presence of other evidence of syphilis, the demonstration of the lesions of an old interstitial keratitis indicates that the syphilis is congenital. Some of the patients in which slit lamp microscopy demonstrates old interstitial keratitis give no history of having had keratitis. The ophthalmoscope shows blood vessels in corneas that grossly show no opacities; on the other hand blood vessels and other "faint sequelae" of interstitial keratitis are demonstrated by slit lamp microscopy when missed by ophthalmoscopic examination. Thus "in the exclusion of congenital syphilis in a patient of any age, examination is not complete unless slit lamp microscopy has been performed." Negative findings with this method show that the patient has not had interstitial keratitis, but does not prove the absence of congenital syphilis.

COMMENT

Interstitial keratitis leaves indelible signs in affected corneas but many cases of inherited syphilis do not have this disease. We always look to see whether a suspicious case has Hutchinson's teeth and the characteristic facies or sabre tibiae or dactylitis. Why not include the examination of the cornea in the routine? It is interesting to note that dactylitis and interstitial keratitis can also be caused by another disease, tuberculosis. With this in our minds, every bit of reliable collateral evidence should be scanned by the clinician irrespective of his interest in a specialty like pediatrics or ophthalmology.

R.I.L.

Classic Characteristics of Defects in the Visual Field

J. N. EVANS (*Archives of Ophthalmology*, 22:410, Sept. 1939) distinguishes two types of visual field defects on the

basis of their origin—neurogenic defects and angiogenic defects. Neurogenic defects are those that arise in association with lesions of the nerve fiber bundles of the retina; angiogenic defects are those that arise from vascular and nutritional disturbances. These two types of visual field defects can be distinguished by suitable technique in determining visual fields. The typical defect of fiber bundle origin is wedge shaped with its apex pointing to the fixation point; there are no pronounced fluctuations at its borders. This defect corresponds to the arrangement of the fiber bundles of the optic pathway. The typical defect of vascular origin is also wedge shaped, but its apex points toward the blind spot; there are transient fluctuations at its borders. The defect corresponds to "the patterns of the retinal vessel tree." The distinction between these two types of defects is of special value in intracranial lesions. The typical defects due to lesions of the fiber bundles, such as hemianopsia, can be distinguished from "the widened angioscotoma" which develops with the onset of increased intracranial pressure.

Methemoglobin-Producing Organisms in Ocular Inflammations

M. A. WOOD (*American Journal of Ophthalmology*, 22:1111, Oct. 1939) reports that in cultures from ocular inflammations of various types, two groups of organisms that produced methemoglobin on blood media were isolated—*Streptococcus viridans* and pneumococcus. The incidence of these two organisms was quite similar; of the 370 strains studied, 170 were pneumococcus and 200 *Streptococcus viridans*. All strains of pneumococci were soluble in bile salts, but the streptococcus strains were not bile soluble; the cultural characteristics of the two organisms on various media also showed definite differences. The strains of pneumococci were typed according to the macroscopic agglutination method of Georgia Cooper with type-specific sera. Type VII pneumococcus was most commonly found in the ocular inflammations studied, occurring in 25 per cent.; the next in order were type XIV (12 per cent.) and type XXIII (10 per cent.); the other types were less frequent. The ocular inflammations in which methemoglobin-producing organisms were found

are classified in five main groups; hypopyon ulcer, panophthalmitis, dacryocystitis, orbital abscess, and conjunctivitis. Streptococci were found more frequently in chronic infectious processes, pneumococci more frequently in acute lesions, as corneal ulcer and panophthalmitis. In acute catarrhal conjunctivitis the relative frequency was almost the same, but the pneumococcus was associated with the more severe infections. The high incidence of type VII pneumococcus is of interest if specific immune sera are to be used in treatment of ocular infections. It is possible that this type was particularly prevalent at the time of this study, but it is noted that in an earlier study (1938) Newman found a similar high incidence of pneumococcus type VII in ocular infections. Methemoglobin-producing organisms were isolated from pre-operative cultures in 58 cases in which the conjunctiva was clinically normal—*Str. viridans* in 32 cases and pneumococcus in 26 cases. It is possible that the presence of these organisms explains the occurrence of many postoperative infections of the eye.

COMMENT

Study of the type of germ associated with eye inflammation deserves more time than has been given. The introduction of sulfanilamide is bound to develop more interest in these details.

H.I.L.

Cycloplegics

F. H. THORNE and H. S. MURPHEY (*Archives of Ophthalmology*, 22:274, Aug. 1939) note that "the ideal cycloplegic is probably nonexistent"; a drug that will totally abolish accommodation has not been found. Atropine sulfate, probably the best cycloplegic, and scopolamine hydrobromide are toxic. Homatropine hydrobromide is the hydrobromide of an alkaloid prepared from atropine; it has been found to be nontoxic when instilled into the eye, and it is widely used as a cycloplegic. Benzedrine sulfate and parendrine (the hydrobromide) have been used as an adjunct to homatropine. The authors conducted experiments on several series of subjects to determine the effect of homatropine hydrobromide alone and in conjunction with benzedrine sulfate or parendrine hydrobromide in depressing accommodation,

and also the time required for recovery. It was found that two drops of a 5 per cent. solution of homatropine hydrobromide with benzedrine sulfate or parendrine hydrobromide, 6 drops of a 2 per cent. solution of homatropine hydrobromide, and one, two and three drops of the same drug in 5 per cent. solution depressed accommodation with equal speed and to about the same degree. If one drop of a 5 per cent. solution of homatropine hydrobromide was instilled with great care, the time required for maximum depression of accommodation was shorter than with the other methods; the time required for complete recovery was also shorter. These findings indicate that benzedrine and parendrine do not appreciably influence the cycloplegic action of homatropine, but they do possibly retard the complete recovery. It was found that multiple instillations of homatropine, with or without benzedrine or parendrine, did not increase the speed of onset or the degree of the cycloplegia, but did retard complete recovery. An ointment containing 2 per cent. homatropine hy-

drobromide was not found to be a satisfactory method of administering homatropine as a cycloplegic. As a routine procedure the authors recommend the use of at least 2 drops of homatropine hydrobromide as a cycloplegic, for a single drop is too easily "flicked from the eye," unless it be instilled with great care.

COMMENT

Atropine is the best cycloplegic but has so many disadvantages that it is used only for refraction of young people. Nothing has appeared to date to displace homatropine as the routine cycloplegic. Even in the small matter of putting drops in eyes, results will differ and reflect the mind and habit of the person instilling them. The tear ducts should be blocked by pressing wads of cotton in the inner angle of the orbits for at least two minutes to prevent the ready escape into the nose. In the case of atropine, this will prevent the dry throat and headache of atropine poisoning and, in other instances, give time for the drug to act. Much of the dissatisfaction with mydriatics and cycloplegics is the result of careless instillation of the drops.

R.I.L.



MISCELLANY

Harry Nelson Jennett, M.D.

—Continued from page 575

county medical society programs, and the elect doctors radioing . . . —er—ah—did you ever attend the A.M.A. big show? You have. Who does the broadcasting? And you did read the immortal document of the committee on Costs of Medical care? And was that costly!—Another million dollars gone to h-halifax. And had you memory of the Carnegie foundation cleaning up and standardizing Medical Colleges? And the scientific stop-gap thus produced was immediately filled by O. and C. "medical" colleges!

H. N. J.

LET'S hurry on. Speaking of Foundations—

(Ma, remind me to take my calomel tonight.)

But I gotta go now. I gotta pay Dr. Spesh Listz for doing that thyroidectomy for me. I told him what I wanted done, and that I would charge them \$150. Here it is, and I gotta take him his \$50.

Ye gods! What's this complex world coming to?

P. S. Don't look now, but California is apparently leading the way in a split of the old line medical wing from the modernistic, more highly professional of the upper bracket.

PP. S. My chest feels much better now, thank you.

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MEDICAL BOOK NEWS

• All books for review and communications concerning *Book News* should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, N. Y.

Edited by Alfred E. Shipley, M.D., Dr. P.H.

A New Pathological Text

TEXTBOOK OF PATHOLOGY. A Correlation of Clinical Observations and Pathological Findings. By Charles W. Duval, M.D. and Herbert J. Schattenberg, M.D. New York, D. Appleton-Century Company, Inc. 1939. 681 pages, illustrated. 8vo. Cloth, \$8.50.

This is another textbook of pathology with 681 pages which is being offered to the medical public. In its preface the authors emphasize the poor relationship that exists today between the basic sciences of anatomy, physiology, biochemistry, pathology and clinical medicine. Therefore "the aim of the authors has been to present the subject matter in such a way that the theme of this text is the pathology of the living patient." Yet, the book ends by a full chapter devoted to the autopsy, with details of equipment, description and records. Whether the aim of the authors has been fulfilled or not is left for the readers' decisions.

The arrangement of the material is rather original, but to the reviewer the advantageousness is doubtful. The same may be remarked of the classification. To include, for example, under the diseases of the hematopoietic system, thrombosis, embolism and infarction, and the leukemic myeloses, and then the leukemic lymphadenoses under the head of diseases of the lymphadenoid sys-

tem together with tuberculosis, bubonic plague, etc., is of questionable value.

Some rather important omissions, among which are fat necrosis granuloma, lipoid pneumonia, lupus erythematosus disseminativa, have been noted. Then, too, the terminology employed has not al-

ways been discriminating, especially in the legending of illustrations; as examples, are cited acute septic splenitis and fibrous myocarditis, which are hardly modern terms used in pathology. The classification and terminology of kidney diseases as presented is hardly acceptable.

The text is prolifically illustrated. For the most part the photomicrographic reproductions are excellent and appropriate. Most of the drawings, too, are well executed. The bibliography is adequate. The book as a whole represents chiefly a collection of good illustrations supporting a text that has not lived up to the authors' laudable and ambitious intentions, but within its limitations it should prove a valuable

addition to the hospital and pathologists' libraries.

MAX LEDERER.

Callander's Anatomy for the Surgeon

SURGICAL ANATOMY. By C. Latimer Calland.



Classical Quotations

• The occlusion of the vessels is effected by red obliterating thrombi; these become organized, vascularized, and canalized. The recent red thrombosis may involve large portions of arteries or veins and is not secondary to the gangrenous process. It occurs even when no gangrene is present . . . There is moderate thickening of the intima. . . . The media and adventitia show cellular infiltration and vascularization whenever thrombosis has occurred.

Leo Buerger
Thrombo-angiitis Obliterans: A Study of the Vascular Lesions Leading to Presenile Spontaneous Gangrene.
Am. J. M. Sc. 154:319 (Sept.) 1917.

YOU may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the **MEDICAL TIMES**, 95 Nassau Street, New York, N. Y.

er, M.D. Second edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 858 pages, illustrated. 4to. Cloth, \$10.00.

This second edition is appreciably more compact than its predecessor. The number of pages has been reduced by approximately one fourth without altering the size of page or type. This has been accomplished without undue crowding of text or illustrative material.

The book is decidedly more up to date than the first edition. Much interesting new material has been added, and certain obsolete material omitted.

Occasional photographic illustrations have been substituted for old drawings, while on the other hand line drawings in considerable number have been used in the descriptions of operative procedures.

Included in the new material are illustrated descriptions of many relatively common present-day surgical procedures which were not included in the original edition. Among others may be mentioned the surgical treatment of anterior scalene and cervical rib syndromes, lesions of the intervertebral discs, lumbar sympathectomy, presacral nerve resection, injection treatment of inguinal hernia, extraperitoneal approach to subdiaphragmatic abscess, nailing of femoral neck fractures, and the more common gynecological operations.

There is much new descriptive and illustrative material relating to the pleura and lungs and their thoracic topography.

Because a thorough understanding of the embryonal development of the gastrointestinal tract is of practical value to those doing abdominal surgery, it is to be regretted that this topic is omitted. It is beautifully described and illustrated in

the original edition. Of course, it is rightfully a part of the study of embryology, but those interested in the topic will find it difficult to lay their hands upon a more compact and easily understood description of the subject.

The only other criticism offered is that some of the line drawings have been reduced too much in size to make them easily legible. However, the success attained in bringing the book up to date and making it more compact, and, at the same time increasing the amount of useful information should excuse these minor faults. No medical library should be without this edition.

WALTER SCHMITT.

Laboratory Procedures

LABORATORY MANUAL OF THE MASSACHUSETTS GENERAL HOSPITAL. By Francis T. Hunter, M.D. Third edition. Philadelphia, Lea & Febiger, [c. 1939]. 12mo. Cloth, \$1.75.

This manual contains a simple description of laboratory tests most commonly used in the practice of medicine. These tests cover urinalysis, hematology including sedimentation rate and blood grouping, routine examination of stools, sputum including pneumococcus typing, gastric and duodenal contents, and other body fluids. The methods used for collecting the various specimens are clearly described. Special diagnostic procedures, such as determination of icteric index, liver function, glucose tolerance, cholecystography, pneumoencephalography, and a few others are given. Therapeutic technique, such as stomach washing, subcutaneous and intravenous injections, blood transfusion, and administration of biological products is well presented. There is also a chapter on prophylaxis against measles, diphtheria, scarlet fever, tetanus, smallpox, and typhoid. On the whole it is a useful little manual.

EDWARD H. NIDISH.

Mental Adjustment

GUIDING HUMAN MISFITS. A Practical Application of Individual Psychology. By Alexandra Adler, M.D. New York, The Macmillan Company, [c. 1939]. 88 pages. 16mo. Cloth, \$1.75.

This book is intended for physicians and lay workers who care for those who have difficulty in adjusting themselves to the problems of life. The author explains briefly the principles of psychology which

her father, Alfred Adler founded, with chapters on the neuroses of childhood and the problems of adolescence. There are also discussions on the psychology of criminals and dreams, and finally a questionnaire for the understanding and treatment of problem children.

STANLEY S. LAMM.

Story of Childbirth

PRIESTS OF LUCINA. The Story of Obstetrics. By Palmer Findley, M.D. Boston, Little, Brown and Company, [c. 1939]. 421 pages, illustrated. 8vo. Cloth, \$5.00.

This book presents for the first time in English, the story of Obstetrics from the earliest civilization to the present era. Frederick Irving writes the foreword: "It endows each name with a vitality which could have been accomplished in no other way. All the great names of those who laid the foundations of our knowledge today, all the pioneers who blazed new paths, who cleared the jungles of superstition and ignorance, become vivid personalities set against the background of their time.

"We of the present day are fascinated by the old Obstetrical worthies, not because of the quaintness of their ideas, but because they knew so much." To quote the author: "It has been said that we see far when we stand on the shoulders of our predecessors. This is but another way of saying that to understand the problems of today, we must know the happenings of yesterday, we must know history. Emerson tells us 'there is properly no history, only biography' and Carlyle is in accord when he says 'History is the essence of innumerable biographies.'

"Modern Obstetrics had its beginning in the common clay of ignorance, superstition and religious bigotry. Pagan deities, men and women, made their contributions and the history of Obstetrics is but a record of their achievements. Many a pioneer has been pushed into the limbo of obscurity. Their names are seldom mentioned and their work is little known, yet they forged the first links in the chain of experimentation and observation which ultimately led to a more complete science."

All the famous midwives, surgeons, and churchmen who have blazed the path of obstetrical knowledge, are presented and their notable contributions described

in detail.

Part two is devoted to the special phases of obstetrics, anatomy, the forceps, puerperal fever, Cesarean section.

The chapter on puerperal fever tells nothing of the drama of Semmelweis and his contemporaries. The long and bitter controversy of its contagiousness is dismissed in a single sentence. The author, however, pays his respects to the scholarly Meigs, and reveals his supreme egotism and smugness.

So also in the chapter on Cesarean section, Sänger receives scant attention as well as the other German obstetricians for their painstaking research and experiment on the uterine incision and suture. There is a complete bibliography at the end of the book. Acknowledgement is made of the source material, particularly Fasbender's exhaustive and scholarly history.

The book fills a long-felt want in the field of obstetrics, and will be enjoyed by all who practice this important branch of medicine. Every medical student should read it, and all those who call themselves specialists in this discipline could read it more than once with profit and enlightenment.

F. B. DOYLE.

Two Late Books on Anesthesia

NITROUS OXIDE-OXYGEN ANESTHESIA. McKesson-Clement Viewpoint and Technique. By F. W. Clement, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 274 pages, illustrated. 8vo. Cloth, \$4.00.

Anesthetists have turned to literature as a hobby or avocation. The medical librarian reports an unusual number of books on the different aspects of anesthesia, and the reviewer finds himself continuously occupied in looking them over.

This time the McKesson school of nitrous oxide-oxygen anesthesia makes its report. The master of the technique has passed on, less articulate, but his disciple has published his methods for the guidance of the later generations. The principles of anesthesia are practically the same for any author; hence this book contains the same theory and scientific background as other anesthesia books. In the technique of practical administration, however, the author is unique in adapting nitrous oxide-oxygen to practically every surgical condition.

Other types of anesthesia are mentioned as possibilities, but the aim is to

adapt the special method to every anesthetic occasion. As a textbook it does not offer enough variety; as a tribute to the memory of McKesson it keeps alive his peculiarly original methods.

THE ART OF ANAESTHESIA. By Paluel J. Flagg, M.D. Sixth edition. Philadelphia, J. B. Lippincott Company, [c. 1939]. 491 pages, illustrated. 8vo. Cloth.

Anesthetic methods change every year as new agents are introduced to the field; these drugs require modifications in present technique to fit them to surgical use. The principles of anesthesia, however, remain very much the same from year to year. Herein lies the value of this book either to the reader in search of a single reference or the student learning the A B Cs of the business; for Dr. Flagg has put his years of experience into the book, years which date back to the primitive anesthetic days of ether and chloroform alone and up to those of the modern armamentarium or chemical laboratory whose list has become so numerous as to be confusing. But with his insistence on the essentials of the art and his preferences for the older methods based on his personal experience, he has given a fair opinion of all the newer substances introduced in the last few years.

Yet the book is different from many of the compendiums of surgical information that are popular today. It is Dr. Flagg himself, and when he speaks positively on a subject or differs with others on some of the disputed points we can respect the large experience that is back of the opinion.

His discussion of asphyxia and its relief by intubation, for which he has crusaded for some years, are an important part of anesthesia technique. The newer agents, such as ethylene, cyclopropane, are not given undue emphasis as compared with the older agents studied in a careful, more detailed manner.

GEO. W. TONG.

English Manual on Dermatology

GARDINER'S HANDBOOK OF SKIN DISEASES. Revised by John Kinnear, M.D. Fourth edition. Baltimore, The Williams and Wilkins Company, [c. 1939]. 239 pages, illustrated. 12mo. Cloth, \$3.50.

This is a revision of the small handbook for practitioners and students first issued by Professor Gardiner in 1919. Its

reviser has made the new edition particularly attractive and definitely more instructive by the use of many splendid illustrations, including some excellent colored plates made by one of the new processes of photography.

The reviser states in the preface: "An adequate description of the commoner skin diseases has been attempted, while brief mention has been made to the rarer affections. Treatment which has proved useful routine practice has been given, but no attempt has been made to make this subject exhaustive. . . . For those who know, or think they know, nothing of the subject, opinions have been given in as dogmatic a form as possible."

The novel classification of the various dermatoses is a real help to the student. The chapter on Toxic Dermatoses is particularly interesting and instructive.

NATHAN T. BEERS.

Biochemistry for the Beginner

AN INTRODUCTORY GUIDE TO BIO-CHEMISTRY. By Sidney Bliss, Ph.D. Philadelphia, W. B. Saunders Company, [c. 1939]. 103 pages. 16mo. Cloth, \$1.25.

This small book written for medical students has the one purpose of arousing interest in the study of biochemistry. The well arranged subject matter points out in a general way how all physiological processes are accomplished by biochemical reactions. The author has wisely omitted all formulae and chemical equations, expressing reactions by naming the products concerned and the resulting substances formed.

This monograph should also be of value as a complement to a course in physiology.

PAUL C. ESCHWEILER.

A Tuberculosis Theory

YOUR CHEST SHOULD BE FLAT. The Deep Chest Makes Better Soil for Tuberculosis. By S. A. Weisman, M.D. Philadelphia, J. B. Lippincott Company, [c. 1939]. 145 pages, illustrated. 8vo. Cloth, \$2.00.

The thesis of this book is that, contrary to past impressions, the round deep chest rather than the flat chest predisposes the possessor to clinical pulmonary tuberculosis. By virtue of an extensive study based on the chest measurements of more than twenty thousand school children, the author ventures the opinion not only that the flat chest does not predis-

pose one to clinical pulmonary tuberculosis, but that it is of distinct advantage to the possessor. Further, he proposes by various measures, exercises, etc., to change the type of chest in those children having round and deep ones. He believes that in so converting a round deep chest into a flat one a large step may be taken toward prevention of the development of clinical pulmonary tuberculosis.

On reading this book through with great care and, we trust, with an openness of mind, your reviewer feels compelled to relate a parable, to wit:

Many thousands of years ago in one of the most remote sections of ancient China, there lived a race who had reached (for that period) a rather advanced stage of civilization. Their territories included many villages of varying size, and they lived in small family groups housed in buildings of thatch and straw bamboo. Now, in the course of years these dwellings came to take several forms: a relative number were circular in form, others were rectangular. From time to time these people suffered great devastations through fire; occasionally some of their villages were entirely wiped out, others were only partially damaged. It became a subject of great consternation and fear to the people.

A council of the elder statesmen was called to consider the situation, to explore into the causes of these conflagrations, and to devise ways and means of preventing them. The council met in prolonged sessions until finally one of the wisest of the elder statesmen expounded the theory that unquestionably the basic cause of all their trouble was the shape or form of the dwellings of that time. And he proposed that a commission be established to take an inventory of all the buildings that had been damaged in order to learn whether the greater percentage lay among those that were circular or those rectangular in form. The proposal was carried out with the utmost enthusiasm and with most commendable industry, hundreds of men being enlisted in carrying out the project. After several years of exhaustive study it was found that 68% of the buildings destroyed were circular while only 23% were found to be rectangular. Whereupon an edict was issued that in the

future all buildings would have to be rectangular in form.

FOSTER MURRAY.

Van Dyke's Second Volume on the Pituitary

THE PHYSIOLOGY AND PHARMACOLOGY OF THE PITUITARY BODY. Volume II. By H. B. Van Dyke. Chicago, University of Chicago Press, [c. 1939]. 402 pages, illustrated. 8vo. Cloth, \$4.50.

This book is a welcome addition to Dr. Van Dyke's first volume on the subject. It deserves the same praise which has been bestowed on the earlier volume. It is an unusually difficult, but praiseworthy task to sift the innumerable papers published by international research workers on the pituitary gland and to point out those which represent real contributions to our knowledge. Many of the new facts reported are likely to alter previous concepts or to confirm previously hypothetical opinion, provided they are critically viewed by somebody whose familiarity with the subject, based on personal investigations, permits him to distinguish between the dependable and the questionable.

The material is divided into chapters on the anatomy of the pituitary body, regulation of growth, gonadotropic functions, mammatropic and thyrotropic hormones, relationship to the adrenals and effects upon various phases of metabolism, and regulation of chromatophores. Two chapters are devoted to the pars neuralis and its function as a gland of internal secretion.

All those who have read Dr. Van Dyke's book or used it for reference are looking forward to subsequent supplementary volumes to keep this valuable work up to date.

MAX A. GOLDZIEHER.

For the Nervous Patient

MASTERING YOUR NERVES. By Peter Fletcher. New York, E. P. Dutton & Co., [c. 1939]. 241 pages. 12mo. Cloth, \$1.50.

The author is a lay psychotherapist who combines his knowledge of psychology with religious faith, and presents both of them in simple language. Since many books written by nonmedical men for lay consumption are worthless as far as therapeutics is concerned, one welcomes this contribution from Mr. Fletcher.

The book is divided into two parts. The first portion deals with the breaking

down of nervous ailments into fundamental concepts, which can readily be grasped by the average reader. Here the author attempts to show the origin of various phobias. On the whole he presents the ideas along psychoanalytical conceptions of the personality and the neuroses. He realizes that the relief of symptoms is not of real value unless the personality is dealt with as a whole.

The second part of the book concerns itself with the building up of a new outlook upon life. This portion of the book does not follow the ordinarily accepted tenets of Freud, but depends upon the acceptance of religious faith as the means of overcoming nervous ailments.

It is one of the few books of this kind which can be safely placed in the hands of nervous individuals.

JOSEPH L. ABRAMSON.

Treves Surgical Anatomy Revised

SURGICAL APPLIED ANATOMY. By Sir Frederick Treves, Bart. Tenth edition, revised by Lambert Rogers, M.Sc. Philadelphia, Lea & Febiger, Inc. 1939]. 748 pages, illustrated. 16mo. Cloth, \$4.50.

This pocket-sized volume is the 10th edition of the original Treves which was published in 1883, and throughout all these years has remained as a textbook in Applied Anatomy. It will undoubtedly be welcomed most heartily by those of us who teach this course in medical schools, for although there have been many volumes written on this subject, Treves, to us, is the best that we have so far had the opportunity to use and study. The various editions that have been brought out since the death of Sir Frederick Treves have followed for the most part the original setup and principles of Professor Treves, and this is because each edition has been most fortunate in having as its preparer such excellent anatomists as Sir Arthur Keith and Professor Choyce,—and now Professor Lambert Rogers.

This revised edition by Professor Rogers has 18 more black and white drawings with the same number of color reproductions. One criticism that might be made of the book throughout all of its editions is the limited number of illustrations, but this could only be remedied by sacrificing text and increasing the convenient size of the book. Person-

ally, we have always found the illustrations to be adequate.

The subject matter is taken up, as in previous editions, in six parts, starting with the scalp and finishing with the spine and spinal cord. The surgical anatomy of obsolete operative procedures has been deleted and the most recent proved and accepted procedures have been substituted.

The sections on eye, ear, nose and throat have been entirely modernized. Nine of the added illustrations have been taken from Professor Rogers book, *Everyday Surgery*, and are a distinct addition to the work. It is interesting to note, for instance, that this edition retains the idea that circulation to the head of the femur in adults is chiefly from the vessels in the neck, the bone and the reflected parts of the capsule. Only an insignificant supply is carried by the ligamentum teres which is contrary to the ideas of some of our bone surgeons today. But we believe the majority of anatomists will agree with Treves or with Walsley who was quoted by Treves.

The failure of editions of this volume to appear creates a serious handicap to those of us teaching the subject and it is this reviewer's sincere hope that we will not have to face this problem again.

Professor Rogers has given us a welcome and excellent edition of this cherished volume.

HERBERT T. WIKLE.

A Practical G. U. Handbook

MANUAL OF UROLOGY. By R. M. LeComte, M.D. Second edition. Baltimore, Williams & Wilkins Company, Inc. 1939]. 295 pages, illustrated. 8vo. Cloth, \$4.00.

Dr. LeComte presents the second completely revised edition of his "Manual" which first appeared in 1933. The work is a practical and useful clinical compendium intended primarily for the medical student whose time for extensive reading in the specialty is limited. The book is well illustrated and logically arranged by subjects and by regions. In this revision the subject matter has been amplified by the addition of data on neuromuscular physiology and pathology of the bladder and impotence and sterility.

Chapter one "Methods of Examination" is particularly important and valuable for every medical student and clin-

ician. Numerous references to the literature are appended.

AUGUSTUS HARRIS.

Nose and Throat for the General Practitioner

OTOLARYNGOLOGY IN GENERAL PRACTICE. By Lyman G. Richards, M.D. New York, The Macmillan Company, [c. 1939]. 352 pages, illustrated. 8vo. Cloth, \$6.00.

This volume of concisely written, definite and practical knowledge for the general practitioner, is well worth its price. The author is a specialist who thoroughly understands the problems, the opportunities and the limitations confronting the man in general practice.

The real purpose of the book is to enable the practitioner to reach a more precise diagnosis of his patient's condition. It is a radical departure from the usual textbook style, and is concerned more with common manifestations of ear, nose and throat pathology, with which the general man comes in contact, rather than with clinical entities or operations that are of special interest to the otolaryngologist.

The illustrations, from original drawings, depict procedures that are essential to the student and general practitioner. Even the specialist will get many valuable hints on office and home procedure, diagnosis, and treatment from these pictures.

The chapter on Tonsillectomy and Adenoidectomy is excellent. The most modern therapeutic measures including sulfanilamide treatment are to be found in each chapter. It is an excellent guide book for the family physician, as to which cases he is qualified to treat and those which truly belong in the specialized field.

Every physician should have this book ever handy and ready for study as well as for reference.

THOMAS B. WOOD.

Disabling Foot Conditions

FUNCTIONAL DISORDERS OF THE FOOT. THEIR DIAGNOSIS AND TREATMENT. By Frank D. Dickson, M.D., and Rex L. Diveley, M.D. Philadelphia, J. B. Lippincott Company, [c. 1939]. 305 pages, illustrated. 8vo. Cloth, \$5.00.

The authors have written this book because of the lack of interest shown by the medical profession as well as a lack of fundamental knowledge among the

nonmedical groups treating foot problems.

Therefore, the writers state that this situation can be improved only by:

- "(1) education of the profession in the importance of disabling foot conditions.
- (2) education of the nonmedical groups in the primary causes of foot disorders and their legitimate limitations in carrying out treatment and
- (3) education of the public to an understanding of the importance of foot welfare."

They take special care to properly organize the matter under discussion, and clearly and profusely illustrate the text.

It is gratifying to note that the authors dwell at some length upon the foot of childhood and adolescence, as many of the faults in foot architecture which produce symptoms in the adult have their origin in the growing foot of the child.

The book is simply written and very practical. It is heartily recommended to the medical profession.

CARMELO C. VITALE.



Surgical Ophthalmology

SURGERY OF THE EYE. By Meyer Wiener, M.D., and Bennett Y. Alvis, M.D. Philadelphia, W. B. Saunders Company, [c. 1939]. 445 pages, illustrated. 8vo. Cloth, \$8.50.

Wiener and Alvis present this little volume as a handy atlas for ophthalmologists and for students of ophthalmology.

Although they are careful to state that the book is not intended to represent a system of ophthalmic surgery, they have selected their material so well and presented it so clearly that the reviewer feels that this work will have a wider use than the authors intended.

The illustrations are good representations of the actual subjects and procedures. The text is lucid and the arrangements logical. Much good advice is given on preoperative study and postoperative care.

All in all, this book is a fine addition to ophthalmic literature.

JOHN N. EVANS.

BOOKS RECEIVED *for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.*



- RADIO THERAPY IN SINUSITIS.** By W. Annandale Troup, M.D. London, The Actinic Press, Ltd., [c. 1939]. 51 pages, illustrated. 8vo. Paper, 3/6.
- NUTRITION AND DIET IN HEALTH AND DISEASE.** By James S. McLester, M.D. Third edition. Philadelphia, W. B. Saunders Company, [c. 1939]. 838 pages. 8vo. Cloth, \$8.00.
- DISEASES OF THE FOOT.** By Emil D. W. Hauser, M.D. Philadelphia, W. B. Saunders Company, [c. 1939]. 472 pages, illustrated. 8vo. Cloth, \$6.00.
- CORRECTING NERVOUS SPEECH DISORDERS.** By Mabel F. Gifford. New York, Prentice-Hall, Inc., [c. 1939]. 190 pages, illustrated. 8vo. Cloth, \$2.85.
- A CHILD IS BORN.** By Mary M. Axelson. Caldwell, Idaho, The Caxton Printers, Ltd., [c. 1939]. 298 pages. 8vo. Cloth, \$2.50.
- A HANDBOOK OF ELEMENTARY PSYCHO-BIOLOGY AND PSYCHIATRY.** By Edward G. Billings, M.D. New York, The Macmillan Company, [c. 1939]. 271 pages, illustrated. 16mo. Cloth, \$2.00.
- PHYSIOLOGY IN HEALTH AND DISEASE.** By Carl J. Wiggers, M.D. Third edition. Philadelphia, Lea & Febiger, [c. 1939]. 1144 pages, illustrated. 8vo. Cloth, \$9.50.
- THE CLINICAL TREATMENT OF THE PROBLEM CHILD.** By Carl R. Rogers. Boston, Houghton Mifflin Company, [c. 1939]. 293 pages. 8vo. Cloth, \$3.00.
- CIRCULATORY DISEASES OF THE EXTREMITIES.** By John Homans, M.D. New York, The Macmillan Company, [c. 1939]. 330 pages, illustrated. 8vo. Cloth, \$4.50.
- FIFTY YEARS A DOCTOR.** By Dr. John Kercher. Boston, Meador Publishing Company, [c. 1939]. 247 pages, illustrated. 8vo. Cloth, \$2.00.
- INJURIES OF THE NERVOUS SYSTEM INCLUDING POISONINGS.** By Otto Marburg, M.D. and Max Helfand, M.D. New York, Veritas Press, [c. 1939]. 213 pages, illustrated. 8vo. Cloth, \$3.00.
- OBSTETRICAL PRACTICE.** By Alfred C. Beck, M.D. Second edition. Baltimore, Williams & Wilkins Company, [c. 1939]. 858 pages, illustrated. 4to. Cloth, \$7.00.
- STEDMAN'S PRACTICAL MEDICAL DICTIONARY.** By Thomas L. Stedman, M.D. and Stanley T. Garber, M.D. Fourteenth edition. Baltimore, Williams and Wilkins Company, [c. 1939]. 1303 pages, illustrated. 8vo. Cloth with thumb index, \$7.50.
- PHYSIOLOGICAL CHEMISTRY. A Text-Book for Students.** By Albert P. Mathews, Ph.D. Sixth edition. Baltimore, Williams & Wilkins Company, [c. 1939]. 1488 pages, illustrated. 8vo. Cloth, \$8.00.
- A HISTORY OF TROPICAL MEDICINE.** Based on The Fitzpatrick Lectures Delivered before the Royal College of Physicians of London, 1937-38. By H. Harold Scott. In two volumes. Baltimore, Williams & Wilkins Company, [c. 1939]. 1165 pages, illustrated. 8vo. Cloth, \$12.50 per set.
- CAESAREAN SECTION. LOWER SEGMENT OPERATION.** By C. McIntosh Marshall, F.R.C.S. Baltimore, Williams and Wilkins Company, [c. 1939]. 230 pages, illustrated. 8vo. Cloth, \$6.50.
- THE DYSENTERIC DISORDERS.** The Diagnosis and Treatment of Dysentery, Sprue, Colitis and other Diarrhoeas in General Practice. By Philip Manson-Bahr, M.D. Baltimore, Williams & Wilkins Company, [c. 1939]. 613 pages, illustrated. 8vo. Cloth, \$8.00.
- A SYNOPSIS OF SURGICAL ANATOMY.** By Alexander L. McGregor, F.R.C.S. Fourth edition. Baltimore, Williams and Wilkins Company, [c. 1939]. 664 pages, illustrated. 12mo. Cloth, \$6.00.
- TREATMENT OF SOME COMMON DISEASES (MEDICAL AND SURGICAL).** By Various Authors. Edited by T. Rowland Hill, M.D. Baltimore, Williams and Wilkins Company, [c. 1939]. 398 pages, illustrated. 8vo. Cloth, \$5.00.
- AN INTRODUCTION TO DERMATOLOGY.** By Norman Walker, M.D. and G. H. Percival, M.D. Tenth edition. Baltimore, The Williams & Wilkins Company, [c. 1939]. 391 pages, illustrated. 8vo. Cloth, \$7.00.
- DIE FAECES DES MENSCHEN.** Funktionelle Diagnostik der Darmkrankheiten. Physiologie und Pathophysiologie der Verdauungsvorgänge. By Professor Dr. Med. W. Heupke, (Band 28 of "Medizinische Praxis"). Leipzig, Theodor Steinkopff, [c. 1939]. 115 pages, illustrated. 8vo. Paper, RM. 9.
- THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY FOR 1940.** Baltimore, William Wood & Company, [c. 1939]. 16mo. Cloth, 60 patients per week, \$2.00.
- MAY'S CHEMISTRY OF SYNTHETIC DRUGS.** Fourth edition, revised and rewritten by Percy May, D.Sc. and G. Malcolm Dyson, Ph.D. New York, Longmans, Green and Co., [c. 1939]. 370 pages, illustrated. 8vo. Cloth, \$6.00.
- A SURVEY OF HOSPITAL SERVICES AND FINANCES IN THE PHILADELPHIA AREA.** Based on Data Collected from 67 Philadelphia Hospitals for the Year Nineteen Hundred Thirty Seven. Philadelphia, (Fidelity-Philadelphia Trust Building) Hospital Council of Philadelphia, [c. 1939]. 4to. Paper, \$1.00.
- TUMORS OF THE SKIN.** Benign and Malignant. By Joseph J. Eller, M.D. Philadelphia, Lea & Febiger, [c. 1939]. 607 pages, illustrated. 8vo. Cloth, \$10.00.
- PSYCHO-DYNAMICS OF CHEWING.** By H. L. Hollingworth. (Archives of Psychology, No. 239). New York, The Author, Columbia University, [c. 1939]. 90 pages. 8vo. Paper, \$1.50.
- MIND EXPLORERS.** By John K. Winkler and Walter Bromberg, M.D. New York, Reynal & Hitchcock, [c. 1939]. 378 pages. 8vo. Cloth, \$3.00.

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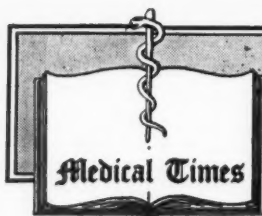
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Dietetic Digest

Preservation of Breast Milk

WILMERS in the *Proceedings of the Royal Society of Medicine* (31, 759, 1938) suggests a simple method for the preservation of breast milk in hospitals. Place seven ounces of fresh breast milk and one half ounce of sterile water in an eight ounce bottle. Over the sterile cork fix with a rubber band six layers of sterile gauze, a large piece of cotton wool and a piece of paper. The bottle is then placed in cold water in a Soxhlet apparatus, the water being at the level of the milk in the bottle. Heat the water to 175°F. and maintain at that temperature for thirty minutes. Repeat this procedure in 24 and 48 hours, keeping the bottle at room temperature in the meantime. When the milk has been heated the 3rd time, remove the coverings from the cork, tighten the cork and seal with paraffin. Milk thus treated will keep indefinitely in refrigerator. Bacteriological, chemical and physical examinations showed that this preserved milk is equal to fresh breast milk.

Absorption of Sugar in Myxedema

ALTHAUSEN and Stockholm in the *American Journal of Physiology* (123, 577, 1938, No. 3) suggest that the abnormally high sugar tolerance curves in patients with myxedema are probably

due to increased or decreased absorption of the sugar administered. In experiments with rats, the authors found that administration of thyroxin markedly increased the absorption of xylose, dextrose, galactose and oleic acid. This increased absorption was believed caused by acceleration of the emptying of the stomach and increase of phosphorylation. Thyroidectomy caused a reduction in the absorption of dextrose.

Excretion of Vitamin A in Urine

HEDBERG and Lindquist state in the *Acta Medica Scandinavica* (No. 90, 231, 1938) that previously the fact had been established that normal individuals did not excrete vitamin A in the urine even when large amounts were administered. However, the authors report that of 26 patients with chronic nephritis, 11 excreted consistently vitamin A in the urine. Of the 26, 2 never excreted any of the vitamin and 13 excreted it occasionally. The vitamin A content of the blood was high in all cases. Excretion of vitamin A is a pathologic symptom.

A NEW FEATURE

THE increased importance of the field of nutrition has prompted us to continue to present a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages will be presented the current literature in this great field of Public Health and Welfare, abstracted

by

Madeline Oxford Holland, B.Sc., M.Sc.

Diets and Factors in Tropical Diseases

COOKE in *The Practitioner* (141, 202, 1938, No. 2) tells at length of diet in the tropics and those tropical diseases which present factors necessary to be adjusted and overcome by white men.

The author points out the difference in the effects of the tropical climate as well as the general requirements necessary and desirable in tropical diets.

In addition to the normal diets, he presents special diets necessary in such tropical diseases as: amoebic dysentery, bacillary dysentery, the malarias, black-water fever, kala-azar, trypanosomiasis, leprosy, ancylostomiasis, schistosomiasis, sprue, epidermic dropsy, lathyrism, atropicism, ackee and manioc poisonings, scurvy, rickets, pellagra, xerophthalmia, tropical macrocytic anemia and beri-beri.

Hydrochloric Acid Control in Peptic Ulcer

WOSIKA in the *American Journal of Medical Sciences* (195, 676, 1938) reports on the hydrochloric acid control obtained in thirteen patients suffering from peptic ulcer by administration of powdered skim milk tablets. The patients were given the fourth week Sippy diet and milk and cream with the tablets given in the intervals between the feedings. Ninety cc. of milk and cream were given each hour and the Sippy powder (2 Gm. sodium bicarbonate and 0.6 Gm. calcium carbonate) on the half hour. The acid values increased following this treatment. Next, the same amount of alkali was mixed with 12.5 Gm. of powdered whole milk (28% butterfat) and administered as tablets. Four tablets were given every hour with ninety cc. of water, omitting the half hour feedings. With this treatment the acid values were slightly lowered.

In a third treatment the amounts of sodium bicarbonate and calcium carbonate were reversed and given with the powdered whole milk in tablets, four hourly. The acid figure was considerably lowered.

When powdered skim milk tablets were substituted for the whole milk tablets, there was far less stimulation of gastric secretion and the average free acid curve approached almost complete neutralization.

Relation of Avitaminosis to Endocrines

SURE in *Endocrinology* (23, 575, 1938, No. 5) presents some interesting facts in the relation of avitaminoses to the

Dietetic Digest

endocrine glands. In animals with a deficiency of vitamin B₁ there followed atrophy of the thymus and hypertrophy of the thyroid, adrenal and pituitary glands. Hypertrophy of the pituitary also followed a deficiency of vitamin B₁. Avitaminosis A was followed by hypertrophy of the pancreas.

Clinical Effect of Irradiated Yeast in Rickets

GIERTHMHÜLEN in the *Deutsche Medizinische Wochenschrift* (64, 1357 1938, No. 38) confirms the use of irradiated yeast in rickets. The author presents his clinical experiences in which he augmented the irradiated yeast with calcium citrate and calcium glycerophosphate in such proportions that the mixture contained 8.4% calcium. Yeast without irradiation showed no anti-rachitic effect.

Vitamin G Variability in Meats

ACCORDING to Darby and Day in the *Journal of Nutrition* (16, 209, 1938, No. 3) meats were found to vary considerably in amounts of vitamin G present. Expressed in amounts of vitamin G per gram of meat biologically equivalent to crystalline riboflavin their results are as follows:

Beef brisket	1.9 γ
Lamb chops	2.8 γ
Bacon	0.9 γ
Cured ham	2.0 γ
Fresh ham	3.0 γ
Pork liver	23.0 γ

These units are indicated as present in fresh uncooked meat.

Dried Bile in Anorexia

WINFIELD in the *Journal of the Michigan Medical Society* advises the use of dried bile in patients suffering from anorexia due to deficient quantity or quality of bile in the intestinal tract. The bile was prepared by drying pig bile in a high vacuum to the form of a dry, fluffy golden water-soluble material which was placed in capsules. The oral administration of the bile showed an in-

Dietetic Digest

crease in appetite in a few hours. However the bile preparation was of no avail in anorexia unless it was accompanied by a bile condition or caused by the latter.

Larostidin in Peptic Ulcer

New importance is placed upon the larostidin treatment for peptic ulcer by a report appearing as the lead article in the November issue of *Military Surgeon*. According to the article larostidin is the therapy of choice in gastro-intestinal ulcers, even some that were complicated by serious other diseases, and reveals important economic advantages to this method of treatment. According to Mitchell M. Benedict, B.S., M.D., the author, use of this treatment resulted in slashing average hospitalization time for peptic ulcer patients from 90 to 30 days.

Included in his group of 132 cases were 10 cases of tuberculous enterocolitis.

In a quite detailed preamble Dr. Benedict summarizes the previously published conclusions of other investigators with regard to the larostidin treatment. As a check upon the theories held by some that response to larostidin might be due mainly to beneficial psychological impressions, Benedict hit upon the naïve plan of giving injections of normal saline solutions to 10 patients who thought they were getting injections of larostidin. Nine other patients actually getting larostidin were used as controls. The former group showed no response to the saline injections, "continued to have pain, food intolerance, impaired appetite, and to lose weight." Then, fol-

lowing the tenth injection, these 10 patients were switched, again without their knowing it, to larostidin and, again quoting the author, "from the time of eleventh injection they showed the usual progress and improvement."

Discharged patients were followed by letter and there were periodic checks to determine recurrence of symptoms. Undoubtedly one of the most interesting findings was that, in these cases of recurrence, x-ray determinations revealed the development of a new ulcer rather than a breakdown of the original lesion. Where recurrence occurred patients were given a repeat treatment of larostidin with satisfactory improvement in every instance.

Predisposition toward ulcer formation continues, the effect of larostidin being upon the lesion itself rather than constitutional make-up, observes the author, who nevertheless believes that Larostidin may conceivably be more effective in altering the constitutional predisposition than is now conceded.

Case records of four patients are reviewed in detail. One male patient had a history of sharp pain in the epigastrium and vomiting 10 minutes after each meal over a period of 12 years, another 37 year old male patient a 14 year history of stomach trouble, including an operation for perforated ulcer 13 years back. A third case described was evidently a particularly hard test for larostidin, exhibiting a two year history of severe gastric pain and hemorrhage, and pain of great intensity.

The larostidin treatment consists of deep intramuscular injections, every day for a period of usually 24 days, of 5 cc. of the preparation (a 4% isotonic solution of 1-histidine-monohydrochloride).

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AN INTRADERMAL TEST FOR THE DETERMINATION OF ACTIVE TUBERCULOSIS

DR. Benjamin Gruskin in collaboration with Drs. Alexander L. Lowria, Richard H. Bennett and Emanuel Schwartz reports in *Diseases of the Chest*, Oct., 1938, the use of a previous method to diagnose malignancy and pregnancy by the intradermal method as applicable to the diagnosis of tuberculosis. The material employed in the preparation of the extract is obtained from the tissue of guinea pigs, which have been previously infected with a suspension of tubercle bacilli in saline.

The doctors fully describe their methods of preparation, contraindications and summarize the usefulness of their test, first, because activity or non-activity of a case of tuberculosis can be determined. Second, because this reaction is not dependent on the antibody response of the patient for its manifestation, and hence will give a positive reaction in miliary tuberculosis and tuberculous meningitis, which usually give negative reactions with the older tests on account of the lack of immune bodies. Third, the fact that the reaction may be read in a few minutes makes it more applicable especially in group examinations. Fourth, there is no possibility of stirring up a latent infection as is sometimes the case with an antigen made from tubercle bacilli. A fifth advantage of the test is that it will give a negative reaction in a non-active cast, in contradistinction to the older tests which usually continue to give positive reactions even when the patient is clinically well, after having been once infected.

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MEDICAL TIMES

95 Nassau St. New York, N. Y.

NEW TEST MEDIA FOR GALL BLADDER EVACUANTS

AT the International Assembly of the Inter-State Postgraduate Medical Association of North America which met in Convention Hall, Philadelphia, during the first week in November, an unusual amount of interest centered about the display sponsored by McNeil Laboratories, Inc., of a fish recently discovered to be of great value for testing gallbladder evacuants. Quoting the Philadelphia Public Ledger:—"One of the most interesting exhibits centers around a fish about an inch and a half long, which is said to be a cross between a telescopic, double fin and gold fish. The fish is under a powerful light, which shows up its internal organs as in an x-ray. It demonstrates the action of certain drugs on the gallbladder."

The use of this Chinese Telescope fish (*Carassius auratus*) for this purpose was inaugurated by Dr. Arno Viehoever of the Philadelphia College of Pharmacy and Science in his research work under a grant from McNeil Laboratories, as to the action of sorparin, a new botanical derivative.

Feeding of New Born Babies

SAYERS in the *Hahnemannian Monthly* (LXXVIII, 864 (1938) No. 10) advises that nature's methods are best in feeding of newborn babies unless the mother is tubercular, insane, syphilitic, anemic or nephritic. The colostrum, or first milk secreted by the mother, contains a large amount of protein and phosphorus plus corpuscles which are phagocytic and the baby should have the advantage of taking this antiseptic and laxative fluid into the alimentary tract.

Until the mother's milk supply is properly established the baby loses weight. This can be controlled by a supplemental feeding of 5% glucose solution or a milk mixture. A 5% solution of Dextri-Maltose might be used during this prelacteal period.

During the first two months of a baby's life the author suggests 3 hour feeding at the hours of 6, 9, 12, 3, 6, 10 and 2. Each nursing period should not exceed 20 minutes, the amount depending upon the baby's exercise, time since last feeding and amount previously taken. Breasts should be alternated and cleansed with boric acid solution before

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waste.

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and after feeding.

To increase the quantity of milk the mother should be given Helonium, Ovoferrin or Manola. To increase solids, shorten the intervals of nursing.

In artificial feeding, a mixture should be prepared to contain 50 calories per pound per day and the proper proportions of essential food elements. It should be free of pathogenic bacteria easily digested and properly presented.

If cow's milk is used Holstein and Ayreshire cattle should be preferred since the cream is more easily digested.

Condensed milk is good when traveling but is excessively sweet. Evaporated milk is to be preferred if purity of fresh milk is in doubt. Certified milk is the finest, purest and safest baby food but is expensive for the average family. Grade A mixed milk is quite satisfactory. Cow's milk contains a greater proportion of protein than human milk and therefore must be diluted with water. The reduction of fat percentage is compensated for by addition of one of the following: Karo, Cartose, Honey, Lactose, Sucrose, Levulose, Dextrose and Maltose.

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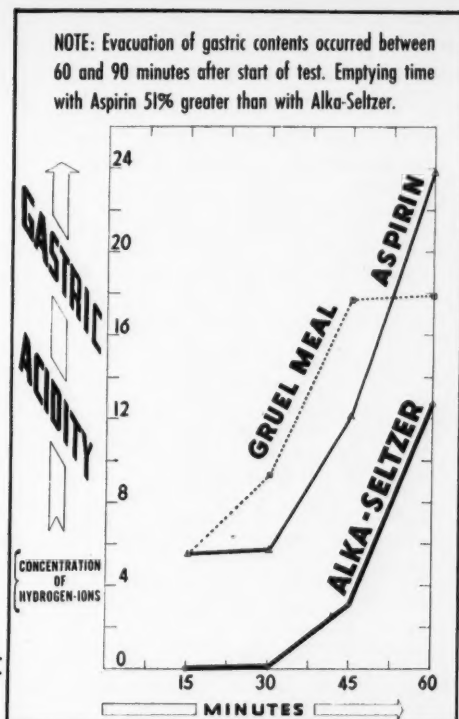
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XXVIII

MEDICAL TIMES, JANUARY, 1939

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Comparative Effects of Alka-Seltzer and of Aspirin on Gastric Acidity



SEVERAL series of controlled laboratory and clinical experiments were conducted to determine the value of Alka-Seltzer for the relief of minor ailments.

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The conclusions of the investigators as illustrated in this chart are as follows:

CONCLUSIONS

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2. the solution of Alka-Seltzer reduces gastric acidity by means of its efficient buffering properties;
3. aspirin fed under similar conditions produces a latent gastric hyperacidity.

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MEDICAL TIMES, FEBRUARY, 1939

New York University Promotes Two Physicians

DR. Harry Woodburn Chase, chancellor of New York University, recently announced the promotion of seventeen members of the faculty to higher academic rank or to new administrative posts. Eight of the changes occurred in the College of Medicine, where Dr. Edward R. Maloney, dermatologist, and Dr. Clarence E. de la Chapelle, cardiologist, were promoted to professorships.



Campaign Instituted by Zonite—Andron

RECENT announcement has been made of the acquisition of the Andron Company, manufacturers of a venereal preventive, by the Zonite Products Corporation. With it, they have also acquired the services of its manager, Edwin A. Perls.

Andron has for many years been a pioneer in the preventive medicine field,

and has been extensively used in U. S. Army, Navy and Revenue Cutter Service. Certain economies in prices and packaging have been made.

The tube is now larger than formerly, and in addition to the standard 7/16 inch tip, they have added one of 1 3/8 inch. Prevention is urged in other infectious diseases such as typhoid, malaria, etc., but previously in gonorrhea and syphilis, cure has played a more important part than prevention.

It is the plan of the Andron Company to bring the importance of venereal prevention to the fore, by means of an advertising campaign among pharmacists and physicians, and through their cooperation work along the lines of the campaign now being urged by the U. S. Public Health Service. The States of Oregon, California and Pennsylvania are the only ones which at the present time, officially endorse effective prophylactics. Other States will undoubtedly follow soon.

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News and Notes

Medical Indemnity Insurance

MEDICAL indemnity insurance for voluntary pre-payment of doctors' bills, as an alternative to state-controlled compulsory health insurance, is advocated by the Medical Society of the State of New York. Many types of socialized medicine are successful and receive the support of the medical profession, such as the control of communicable diseases like tuberculosis and pneumonia, as well as the maintenance of state and municipal hospitals, "but should the state try to extend its medical activities farther through compulsory health insurance so as to accompany the doctor across the threshold of the sick room and place the hand of government upon the patient's pulse, then the doctor must clearly register his remonstrance."

Social Hygiene

"GUARD Against Syphilis" is the slogan of National Social Hygiene Day to be observed throughout America on February 1. The day will be marked by some 5,000 meetings to highlight present community campaigns against syphilis and will focus public attention on vital next steps in the conquest of syphilis.

Section on Military Medicine and Surgery

THE Medical Reserve Officers of Kings County have organized a Section on Military Medicine and Surgery which is officially a Section of the Medical Society of the County of Kings and Academy of Medicine of Brooklyn. The first meeting was held on October 17, 1938 at the County Society Building. Colonel Jay W. Grissinger, Corps Area Surgeon, spoke on "The Civilian Physician, His Place In A National Emergency." Other speakers were Alec N. Thomson, M.D. and Lieutenant Colonel L. W. Webb, Jr., M.C., U. S. Army.

The first meeting of 1939 was held at the County Society Building on January 16, 1939. The program was very interesting. Colonel Adelno Gibson, U. S. Army, spoke on "Gas Attacks In Relation To The Civilian Population."

Medical Times

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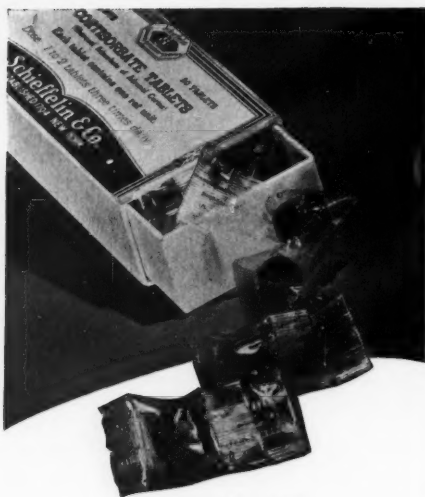
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Continued on page XV



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Marketing Fellowship To Investigate Physicians' Direct Mail

MURRAY Breese Associates, Inc. of New York and Chicago, recently pledged funds for a fellowship in marketing to the University of Chicago. The grant was accepted by the Board of Trustees of the University. Its members will administer the funds for the study indicated by the Breese organization.

What happens to direct mail sent to physicians by pharmaceutical houses? The fellowship will attempt to answer this question as far as it concerns the city of Chicago and its outskirts. A group of selected university men, supervised by three faculty members will interview physicians and take down answers to various questions they put to medical men.

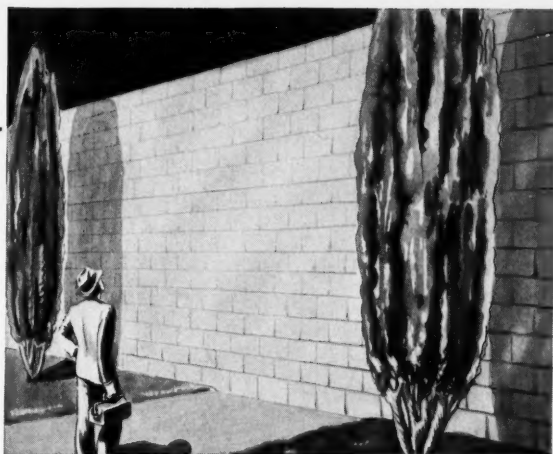
Wide Interest to Drug Manufacturers

MR. BREESE believes that a survey of this type should be of great interest to manufacturers of pharmaceutical and other products used and prescribed by physicians. He says, "A really intensive study of the worthwhileness of direct mail to the profession has never been undertaken before as far as I know. Has the saturation point been reached as far as this type of promotion is concerned, or does it have a greater value than other sales promotion? How many doctors entrust their direct mail to nurses and secretaries? What type of direct mail do they read? What type do they save? How many of them throw such pieces away unread? We hope, through this personal questioning, to answer some of these puzzling conjectures on the pharmaceutical mailing piece."

Other Cities and Small Towns to be Covered in Future

QUESTIONS on direct mail and other forms of promotion to the profession will be answered by investigations in various cities and towns throughout the United States in the near future, promises Mr. Breese. He plans a definite long-time program. The present line of query will probably extend over a year's period. Results will be made available to the industry as soon as they are tabulated. As the Breese concern specializes in the marketing and advertising of pharmaceutical and allied products to the profession, its interest in the project may readily be seen.

MEDICAL TIMES, FEBRUARY, 1939



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Dietetic Digest

Food Influence on Hemoglobin

ACCORDING to Ascham, Spurs and Maddox in the *Journal of Nutrition* (16, 425, 38, No. 5) the influence of different foods upon the regeneration of hemoglobin in nutritional anemia varies widely. To determine the hematopoietic properties of foods, a bio-assay technic was used. This measured the availability of iron for hemoglobin synthesis in young rats rendered anemic by prolonged feeding of an exclusive milk diet, provided that copper is amply supplied. The ionizable iron was determined chemically by the α -, α' -dipyridyl method.

A greater hemoglobin gain was obtained with the canned leaves plus the cooking liquid of turnip greens and collards than with the dried forms of these greens. The iron of the canned turnip green leaves was less available than that of the dried greens.

The foods studied fall in the following descending order in respect to the availability of their iron for the regeneration of hemoglobin: black-eyed peas and spinach; turnip greens and kale; collards and mustard; head lettuce; tender green and leaf lettuce. The ionizable iron and iron available for hemoglobin synthesis were not identical.

Vitamin C in Pregnancy

ELMBY and Christensen report in *Klinische Wochenschrift* (17, 1432, 1938, No. 41) on determinations of ascorbic acid content made on blood, urine and milk of a group of 200 women during the last five months of pregnancy, parturition and puerperium. The concentration of the vitamin in the blood and milk was closely related to the as-

corbic acid intake. During pregnancy, the acid titer fell in the mother and in the infant in the first ten days of life. The vitamin content of the infant's serum and the milk depended upon the serum ascorbic acid content of the mother. In order to bring the values up to normal, 100 mgm. of the vitamin were administered daily during the first ten days of puerperium.

Copper Balance in Pre-School Age

FROM experimental studies with three normal pre-school age boys, Scoular in the *Journal of Nutrition* (16, 437, (38) No. 5) concludes that between 0.053 and 0.085 mgm. of copper per kilogram of weight are required by boys between the ages of 3 and 6 years.

Thirty-five copper balance studies were made by comparing the spectra of the ash of food, feces, urine, distilled water and acid-alcohol with those produced by solutions of known copper content. The retentions were then calculated.

The daily urinary copper excretion was fairly constant for a given child, averaging 4% of the ingested copper. Fifteen to 58% of the ingested copper was excreted by the way of the alimentary tract.

The lowest copper retentions occurred with the lowest copper intakes, whereas the highest retention was obtained with an ingestion which was close to the maximum level of copper consumed. High retentions did not occur with the higher ingestions tested, contrary to that which might have been expected.

Chills and Exercise and Bodily Functions

TWO naked normal men were studied in the Sege respiration calorimeter at temperatures which produced chills after 2 to 3 hours' exposure. Hardy, Milhorat

and DuBois in the *Journal of Nutrition* (16, 477, 1938, No. 5) attempted to determine the difference between chills and exercise in regard to radiation, convection, vaporization, surface temperature and rectal temperature. Six observations were made on involuntary chills and six on voluntary exercise, and no essential difference was observed. When chills were imminent, voluntary exercise would check them.

When naked subjects lie motionless in a calorimeter at 22° C., to 25° C. the rectal temperature falls 0.2° C. to 0.5° C. in from 2 to 3 hours, but the average surface temperature falls about 3° C. and the subject shivers. This bit of exercise usually but not always causes a slight rise in average surface temperature and warms him enough to stave off a second chill for an hour or so. The shivering may store a quantity of from 20 to 40 calories in the body.

At temperatures near 27° C. the subjects are comfortable and exercise causes a marked increase in the percentage of heat loss by vaporization. At lower temperatures chills and exercise cause little or no change in this percentage. The total amount of radiation diminishes slightly because of the falling skin temperature, and the percentage of heat lost by radiation is decreased markedly. Convection is greatly increased by the movement of the extremities in chills

A NEW FEATURE

THE increased importance of the field of nutrition has prompted us to continue to present a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages will be presented the current literature in this great field of Public Health and welfare, abstracted

by

Madeline Oxford Holland, B.Sc., M.Sc.

Dietetic Digest

and exercise. This is one manner in which the body may give off more heat through a cool skin than through a warm skin.

The metabolism in these two men remained at its basal level until 5 to 10 minutes before the onset of the chills, casting doubt on Reubner's "Chemical Regulation." It fell to basal levels promptly after the chills and after moderate exercise.

Two athletes, after playing squash racquets violently for 36 minutes, showed rectal temperatures of 39° C. with falls in average surface temperature of about 3° C. After resting 40 minutes, rectal and surface temperatures returned to their former levels. Radiation and convection were changed but little. Increased vaporization dissipated the large amount of heat stored in the body. The body, by a different mechanism, thus gave off more heat through a cool skin than through the warmer and drier skin of the basal periods.

Citrin in Capillary Fragility

CITRIN is obtained from citrus fruits, particularly the skins, by dissolving in neutral alcohol and then precipitating with lead acetate. The precipitate is dissolved in sulfuric acid and precipitated again from the water-free alcoholic solution with sodium or potassium hydroxide. Szent-Gyorgi, in the *Zeitschr. physiol. Chem.* (255, 126 (38) No. 1, No. 2 and No. 3) states that it has been found that citrin has a favorable influence on the pathological fragility and permeability of the capillaries, and shows promise.

Peptic Ulcer in Diabetes

IN a group of 3,525 diabetic patients, peptic ulcer was present in 9 cases, constituting an incidence of 0.25%; of 130,500 total hospital admissions, 1,952 patients, or 1.49%, had peptic ulcer. Both diabetes mellitus and peptic ulcer were present in 51 cases out of a group of 10,397 diabetic patients collected from reports in literature according to Rothen-

—Continued on page XXIV

Dietetic Digest

Continued from page XXIII

berg and Teicher in the *Amer. J. of Dig. Diseases* (V, 663, (1938) #10).

Low gastric acidity is found in a large proportion of diabetic patients. To this fact, the infrequency of peptic ulcer in the presence of diabetes may be attributed.

In 7 of the authors' cases of peptic ulcer associated with diabetes, gastric acidity was normal in 5 patients, below normal in one, and above normal in another.

Ulcer symptomatology was atypical in a large proportion of the cases of co-existing diabetes mellitus and peptic ulcer. The diabetic status of these patients was mild and with few occasional symptoms.

Best therapeutic results were obtained in those cases of peptic ulcer and diabetes mellitus who were placed on a Sippy diet, with the diabetic status being controlled by insulin injection whenever necessary.

Gastric Analysis Indicator

PENNER, Hollander and Saltzman in the *Amer. J. of Digestive Diseases* (V, 657 (1938) #10) after investigating several cases conclude that phenol red can be used as a dilution indicator in gastric analysis in humans. A dilution indicator as a substance used in the quantitative determination of the relative amount of test-meal and secretion present in a sample of gastric contents recovered during the course of a test-meal series. Any substance used for this purpose must not disappear from the stomach except by loss through the pylorus. Such disappearance may occur through (1) absorption by the gastric mucosa, (2) adsorption on the surface of the mucosa, or (3) chemical change of the indicator by reaction with gastric contents. The authors reached their conclusion because they found phenol red satisfied all these conditions.

Fungi in Lesions of the Stomach

BEARSE in the *Amer. J. of Dig. Dis.* (5, 674, (1938) #10) states that fungi

as etiological factors in lesions of the stomach have been practically ignored. Fungi may cause gastritis, ulceration and even go on to perforation without any characteristic symptoms. Complaints are very similar to those in functional disturbances of the stomach or in peptic ulcer.

When pathogenic fungi are found in the vomitus, the diagnosis should take fungal infection into consideration. If the fungi are found in uncontaminated gastric contents and can be cultured in appropriate media, the condition should be further investigated. Conclusive proof of mycotic infection is presented if the inoculation of the culture into a rabbit gives a typical reaction, corroborated by positive blood cultures, intradermal tests and blood agglutinations.

An early diagnosis of such a condition is an added advantage. More frequent use of the gastroscope and increasing skill in recognizing typical mycotic gastritis or ulceration should aid early diagnosis.

In treating these cases of fungal infection iodides to the point of tolerance should be given in uncomplicated cases. X-ray is advised if there are actinomycotic sinuses. Perforation or repeated hemorrhages require operation.

Diarrhoeal Causes in Infants

WINTER diarrhoea in infants is due to three different etiological factors according to Graham in the *Practitioner* (141 733 (1938) #6).

- (1) Dietetic causes
- (2) Infections in the bowel (central)
- (3) Presence of infection outside the bowel (parenteral)

The first factor may be unsuitable food or over-feeding.

In dealing with winter diarrhoea the most important problem concerns the question of prevention of such infections. The common cold may prove a serious and even fatal malady in young and weak infants particularly in premature infants. If an attendant or the mother has slightest cold traces a mask of a layer of blotting paper or cellophane between gauze should be worn.

Other preventable factors which pre-

—Concluded on page XXXI

CLINICAL RESULTS IN THE CHEMOTHERAPEUTIC MANAGEMENT OF ARTHRITIS

ALTHOUGH the etiology of arthritis is obscure and the causes not yet determined, it has been stated by Kimble¹ and others to be a constitutional disease involving all of the body tissues. The changes in these tissues over a period of years manifest themselves in joint deformities characteristic of the condition. Upon these progressive alterations in the tissues, known as 'subvitalization', are superimposed the effects of a number of traumatic agents such as toxins, strains, exposure and endocrine disorders.

Redewill² lists as 'influencing and accelerating factors' in the development of the arthritic condition, the following:

Exposure, exhaustion, specific infections, focal infections, under-nutrition, anemia, toxemia, abnormal metabolism, trauma, circulatory disturbances and gastrointestinal disorders.

It is often impossible to discover the offending factor and so bring relief to the patient, even in spite of painstaking examination and history-taking, and when relief is gained, it is frequently transitory due to underlying chronic tissue changes.

Classification

Arthritis is classified, according to the classification of the rheumatic diseases reported by the Sub-Committee on Rheumatic Diseases of the Royal College of Physicians (1935), as chronic arthritis

—Continued on page XXVIII



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CHEMOTHERAPY OF ARTHRITIS

—Continued from page XXVII

including the atrophic, the osteo-arthritis and the rheumatoid groups. The other grouping is the non-articular rheumatic affections which comprise fibrositis, neuritis, lumbago and sciatica.

In an effort to obtain a greater degree of relief from discomfort and actual disability for a larger percentage of patients, certain chemical agents have been introduced as adjuncts to other indicated treatment, aimed at correcting the accelerating or precipitating factors. Many of the older treatments have been found of little or no value; the tolerance of cinchophen which has for many years been administered in arthritic conditions causing a distinct dermal rash and neuralgic reactions, in addition to being considerably toxic in nature. In view of favorable reports of several clinical investigators¹³³⁴ on a new drug, namely aminodimethyl-pyrazolon-quinolinesulfonate ethyl salicylate carbonate, this chemotherapeutic agent was selected for clinical trial on a series of patients admitted to our clinic during April, 1938. This chemical is soluble in about two parts of warm water, and when combined with solution of ferric chloride, presents a blue-black tint. It is not related to cinchophen in any way, and has been stated to produce progressive restoration of joint motility with reduction of swelling. Reference has been made to its rapid and prolonged pain relief in arthritis.

† Reported by R. E. Rahm, M.D.; W. H. Devine, M.D.; Edward L. C. Turner, M.D., and R. M. Duiner, M.D.; San Antonio, Texas; with Alfredo Lenz, M.D., and Salvador Salinas Pena, M.D.; Nuevo Laredo, Tamaulipas, M.

Pharmacology

Recently this chemical was tested pharmacologically and toxicologically on rabbits as the experimental animals.* Groups of five animals were set aside and varying amounts of the aminodimethyl-pyrazolon-quinolinesulfonate-ethyl salicylate carbonate administered per dose, using a stomach tube to insure proper administration. Previous workers have calculated the normal therapeutic dose in humans as approximately 0.5 grains per Kilogram body weight, and the dosages administered to the experimental animals in increasing amounts, with the first group retained as controls. The chemical was administered in aqueous solution, 0.1 gr. per cc. H₂O for groups II to VI and 1.0 gr. per cc. H₂O for groups VII to X. The feeding was carried on for 21 consecutive days, as follows:

Animal No.	Group	Grains/ Kilo	Comparison with Therapeutic Dose
1-5	I	.0	Controls
6-10	II	.5	Therapeutic dose
11-15	III	1.0	2X
16-20	IV	2.0	4X
21-25	V	3.0	6X
26-30	VI	5.0	10X
31-35	VII	10.0	20X
36-40	VIII	20.0	40X
41-45	IX	30.0	60X
46-50	X	50.0	100X

Differential blood count studies showed no abnormalities in the blood cell picture of erythrocytes, leucocytes and in granulocytes. Urine samples tested for blood were uniformly negative. Pathological studies of deaths occurring revealed that those in groups I to VII inclusive were

* Pathological, pharmacological and toxicological experiments carried on by J. Raymond Johnson, Ph.D. and Jack Mazzola, Ph.D., of the Dep't of Physiology and Pharmacology, Long Island College of Medicine, Brooklyn, N. Y.



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obviously not traceable to the drug. Groups VIII to X showed uniform death; survivals being averaged for Group VIII at 9 days; for group IX for 7 days; and group X surviving an average of 2.5 days. None of the tests animals below 40X therapeutic dose showed gross or microscopic pathology.

The conclusion reached as to toxicity of aminodimethyl-pyrazolon-quinolinesulfonate ethyl salicylate carbonate was that twenty times the normal therapeutic dose may safely be administered.

Clinical Administration

In the clinical administration of this chemotherapeutic agent, every effort was made to substantiate evidence. Upon admission to the clinic, each patient was given a thorough physical and laboratory examination to determine factors of significance in the arthritic condition. Careful history-taking was deemed an essential, and Wassermann and gonorrheal smear tests were routine. Where any of the influencing factors such as infected teeth, infected tonsils, intestinal toxins, nutritional deficiencies and other

conditions existed, general therapeutic measures (removal of foci, elimination of toxins, rest, diet, etc.) were continued for several weeks. After adequate study had been completed, chemotherapeutic treatment was instituted with aminodimethyl - pyrazolon - quinolinesulfonate ethyl salicylate carbonate.

Administration of this drug entailed dosage depending upon the severity of the condition, ranging from one 7½ gr. capsule three times daily, to two capsules four times daily before meals and on retiring. Wherever possible, as satisfactory improvement was noted, the dosage was gradually reduced.

We have had the opportunity of observing 47 cases of arthritis treated with this chemotherapeutic agent, and wish to record that one of the noteworthy observations early in this study was the promptness with which this chemotherapeutic agent brought marked relief from arthritic pain.

With relief of pain there usually occurred increase in range of movement in

—Continued on page XXX

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XXX

CHEMOTHERAPY OF ARTHRITIS

—Continued from page XXIX

affected joints. A well-defined diminution in inflammation and reduction in swelling resulted in the affected areas.

In view of the increased attention being directed to agranulocytosis, all patients were closely observed for early symptoms, such as generalized muscular soreness, chills, sudden fever and sore throat. This close scrutiny was deemed essential because of the factors reported to be of etiologic significance. Idiosyncrasy to several drugs, foreign proteins, serums and bacterial vaccines, fatigue, loss of sleep, infection and menstruation are stated¹⁰ to be among the foremost predisposing factors.

Summary

Forty-seven cases of arthritis were treated by general measures (removal of foci, elimination of intestinal toxins, rest, dietary regulation, and local therapy to affected parts) followed and supplemented by chemotherapy with aminodimethyl-pyrazolon-quinolinesulfonate-ethyl salicylate carbonate, a new compound marketed as 'Causalin.' It is administered by routine treatment in 7½ gr. doses three times daily, increasing frequency and quantity as severity indicates. Dosage is reduced as improvement is noted.

Tabulation of results in clinical trial in these cases:

Total number of arthritis cases treated.....	47
Cases reporting complete relief, with no recurrence up to eleven months.....	17
Cases showing marked improvement.....	13
Cases reporting complete relief, with no follow-up yet reported on recurrence.....	9
Cases reporting fair improvement.....	5
Cases showing no perceptible improvement.....	3

The patients were nearly equally divided as to sex, and the majority had reached their fifth decade. One singular case presented a 74 year old female in whom relief from pain was noted on third day of treatment.

Thirty-nine patients in this clinical series experienced either complete relief from symptoms or marked improvement in condition to the extent that they could resume normal activities. In the majority of cases, chemotherapeutic treatment instituted prompt response, noted by relief of pain, reduction in inflammation and swelling, and increased range of motion of affected joints.

MEDICAL TIMES, FEBRUARY, 1939

Conclusion

1. A new chemotherapeutic agent, aminodimethyl - pyrazolon - quinoline-sulfonate-ethyl salicylate carbonate said to be beneficial in treatment of arthritic conditions has been reported.

2. Reported experimental and clinical observations suggest that this drug has a definite effect on rheumatoid arthritis and similar conditions.

3. The drug reveals no toxic manifestations in quantities approaching 20X the normal therapeutic dose.

4. Limited experience with aminodimethyl - pyrazolon - quinolinesulfonate-ethyl salicylate carbonate suggests that it will prove valuable in practice.

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DIETETIC DIGEST

—Concluded from page XXIV

dispose to infection are malnutrition, rickets and anaemia

Be certain that infants are fed the required calories and use measures for preventing rickets and nutritional anemia. These prevention measures will lessen the susceptibility to these infections.

Diet at Febrile Stage of Pneumonia

BEAUMONT in the *Practitioner* (141, 694, (1938) #6) states that the diet during the acute febrile stage of pneumonia must be liquid. Five to six pints of fluid should be taken every 24 hours, consisting of milk, meat extracts and water. To each pint of water should be added the juice of three oranges or lemons with 4 oz. of glucose. Valentine's meat juice may be given also. To flavor the milk, weak tea may be used. When the temperature falls the diet is increased gradually, by addition of dry toast, thin bread and butter and a lightly boiled egg. Later small amounts of custard, fruit jelly, blancmange, mashed potatoes and steamed fish may be given.

MEDICAL TIMES, FEBRUARY, 1939

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Continued from page XVIII—

the Army Medical, Dental and Veterinary Schools and the Biological Laboratory, or is to adorn one of the beautiful parkways or drives elsewhere in Washington is really not the vital consideration. The need for a new building is pressing. The construction of such a building would give opportunity for modernizing the equipment and making the materials far more available than they are now. It would serve as a monument to medicine in consideration of its services to human welfare.—*Jour. A. M. A.*

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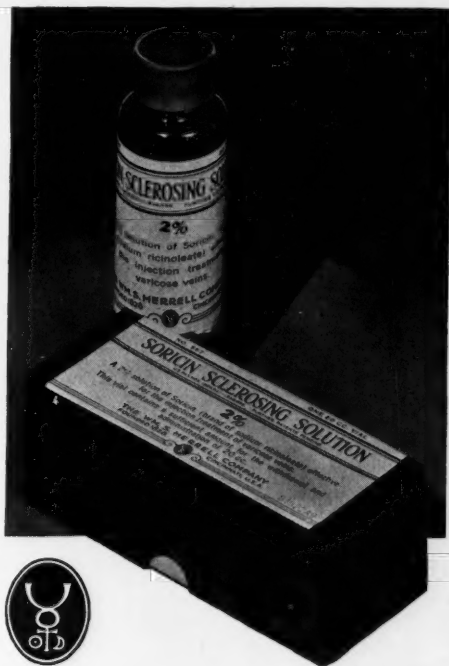
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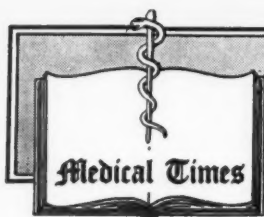
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Dietetic Digest

Habitual Use of Phenolphthalein

HABITUAL use of phenolphthalein as a laxative has been proven harmful to a large percentage of users. Soper in the *American Journal of Digestive Diseases and Nutrition* (5, 297, 1938, 5) states that of 177 persons who had taken daily doses of phenolphthalein for periods from 2 months to 2 years, 152 suffered from catarrhal colitis. The doctor is sometimes misled in prescribing a non-irritant laxative mixture to which the manufacturer has unbeknownst added a dose of phenolphthalein to make it more active.

Gelatin in Infant Diet

ACCORDING to Joslin in the *Archives of Pediatrics* (Jan. 1939) infants fed on milk containing gelatin had fewer upper respiratory infections than control groups fed on untreated or merely acidified milk. Feeding studies conducted in 1936 suggested the possibility of this effect and further studies confirmed it. One hundred and fifty infants were divided into three groups of fifty each. Ordinary cows' milk was fed to the first, acidified and evaporated milk to the second group and milk mixed with $\frac{1}{2}$ % gelatin (U.S.P.) Knox to the third group. Among the first group fed untreated cows' milk, there were 119 upper respiratory infections during six months. Twelve babies of the second group suffered infections whereas of those fed the gelatin-milk mixture only six had upper respiratory infections.

Infants in the last group vomited less and had a lower incidence of constipation or diarrhoea, although all three

groups showed about the same gain in weight.

Vitamin Response Due to Solvent Variation

IN the early days of vitamin A research, little attention was given to the nature of the fat in which the vitamin was administered. Variations were soon observed in the growth response of rats when carotene (or vitamin A) was given in different solvents, according to Lease, Lease, Steenbock and Baumann in the *Journal of Nutrition* (17, 91, 1939, 1). It appeared, however, that the variations in biological results obtained with different solvents were due to the various degrees of instability of the active materials in these solvents.

No marked differences in storage were obtained when excessive amounts of carotene (or vitamin A) were fed in lard, soy bean oil, cottonseed oil, de-

A NEW FEATURE

THE increased importance of the field of nutrition has prompted us to continue to present a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages will be presented the current literature in this great field of Public Health and welfare, abstracted

by

Madeline Oxford Holland, B.Sc., M.Sc.

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vitaminized butterfat and a hydrogenated vegetable fat. Approximately equal growth responses were obtained when one microgram of carotene daily was fed in cottonseed oil, soy bean oil, lard, decolorized butterfat, coconut oil or crude peanut oil. Inferior growth was obtained on triolein, linseed oil and 'refined' peanut oil, but the rate of cure of ophthalmia was essentially the same on all oils.

Vitamin-Calcium Balance in Diabetes

RALLI in the *Annals of Dentistry* (5, 129, 1938, 3) states that if diabetic patients cannot ingest a sufficient amount of milk, one gram of calcium should be given daily as dicalcium phosphate or as calcium lactate, as diabetic diets are apt to be low in calcium. The vitamin A intake should also be guaranteed by administering cod liver or haliver oil, since

Dietetic Digest

the diabetic condition does not allow for efficient carotene utilization. Diabetes also raises the vitamin C requirements. The author concludes that the incidence of dental caries among diabetics might be lowered if the patient is given adequate calcium and vitamins A, C and D.

Vitamin A Therapy in Pregnancy Dermatoses

ACCORDING to Bureau of the 25th Congress Français de Médecine through the *Presse Médicale* (46, 1864, 1938, 101) pregnant women and the newborn infant are most liable to have

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Dietetic Digest

—Continued from page XXV

vitamin A deficiency. In cutaneous affections of pregnancy, such as creased skin, varicose ulcers, post-operative scars and fistula, perineovulvar ulcers, ulcerations of the neck and accompanying erythema of the newborn and benign epidemic pemphigus, local doses of adequate amounts of vitamin A gave excellent results.

KAVA-SANTAL IN THE THERAPY OF CYSTITIS

THE first obligation of the general practitioner is to relieve the symptoms of bladder irritability, writes Monroe M. Broad (Medical Record 149, 4, February 15, 1939). The most prominent of these symptoms he considers—increased frequency of micturition; nocturia; urgency; stranguary; pyuria and hematuria.

Employing oil of sandalwood and kava-kava it was found that the combination acted as a powerful stimulant of the genito-urinary mucosa, was diuretic and anesthetic and thus gave valuable aid to the relief of spasm due to inflammation of the vesical mucosa.

A number of cases were reported in detail from the thirty-seven cases studied. (In one instance, in addition to a slight trigonitis, there was an enlarged prostate, with frequency, extreme urgency and a feeling of fullness in the rectum. With only dietary restrictions and the administration of kava-santal in capsules, within two weeks the prostatic condition had resolved and the trigonitis cleared up without further incident.)

Of eighteen cases of specific urethritis, there were nine in which only kava-santal was used. These showed "Very few" organisms present at the end of seven days and only "Occasional" organisms after fourteen days. Five cases were treated with kava-santal and sulphanilamide with no organisms revealed at the end of fourteen days and four cases with sulphanilamide alone in which similar results were obtained. Quicker relief of symptoms was enjoyed

when kava-santal was used either alone or in conjunction with Sulphanilamide.

Kava-santal was also used in seven cases of tuberculous cystitis, with improvement in five, slight improvement in one and no betterment in one; in three cases of non-specific prostatitis, with improvement in two and one slightly improved.

The author stresses that the presence of specific and non-specific infections of the urinary bladder are indications for the use of kava-santal and that the simultaneous use of other remedies is by no means a contra-indication.

The clinical study also employed kava-santal in five cases of non-specific alkaline cystitis. Excellent results were obtained although the urine remained alkaline.



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* No significant decreases in granulocytes were observed in rabbits fed up to 20 times the normal dose of CAUSALIN.

American Public Health Association

THE 68th Annual Meeting of the American Public Health Association will be held in Pittsburgh, Pa., October 17-20, 1939, with headquarters at the William Penn Hotel.

Dr. Reginald M. Atwater, Executive Secretary, in announcing the dates, calls attention to the important issues facing the public health profession and predicts a year of great expansion in the responsibilities of health officers and health workers generally.

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Disorders of the Nervous System

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Carrying this laboratory work to its ultimate conclusion, Davis and Koff (11) have

shown that this hormone will produce ovulation in the human ovary; and other investigators, whose work is as yet unpublished, have brought about an encouragingly high percentage of pregnancies in cases of functional sterility.

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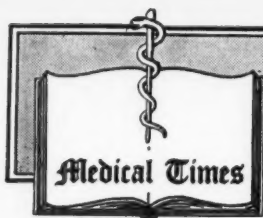
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Dietetic Digest

Gelatin Effect on Muscular Fatigue and in Diet

ACCORDING to Ray, Johnson and Taylor, in the *Proc. Soc. Exptl. Biol. and Med.* (40, 157 (1939)), as has been previously stated by Boothby, the onset of muscular fatigue can be appreciably delayed by the addition of glycine to the diet of the normal individual. In cases of myasthenia gravis and similar conditions, feeding of glycine (an amino-acid) tends to restore the wasted muscle tissue, indicating an effect upon the tissue's physiologic state. Wilder's explanation for these reactions seems to lie in the creatinogenic action of the glycine, and the storage of part of this product in the muscles. This theory is in accord with the current concept of the chemistry of muscular contraction, where creatine (in its combination with phosphoric acid) plays an important part. Rose, Ellis and Helming have stated that male subjects on creatine diet could adequately store this substance. Boothby also found that normal subjects were unable to take large amounts of glycine without discomfort.

The present authors attempted to determine quantitatively if a food rich in glycine would also increase the amount of work a subject was capable of completing before onset of fatigue. Gelatine, which contains 25% glycine, is easily digestible and readily available as a food substance. The amount of work done was measured in test subjects on a bicycle-ergometer using a generator and the work energy measured on a watt-meter, both during a control training period and during a period when gelatine was added to the normal diet.

The constant maximal output of work before onset of fatigue was determined on 6 male and 4 female subjects during a period of training. Then three of the women were given 45 Gm. of gelatine per

day and the fourth, 67.5 Gm. The male subjects were given 60 Gm. daily. The gelatin selected was a colorless, flavor-free, pure sugarless gelatin U. S. P. XI (Knox). The gelatine was mixed with chilled orange and lemon juice (about 30 Gm. in 8 oz. of juice). These dosages approximated the range used by Adams et al. of 15 Gm. glycine. After the gelatine-fruit juice diet was discontinued, experimental results were obtained on fruit juice alone, proving that the effect was due to the gelatine and not to the fruit vitamins.

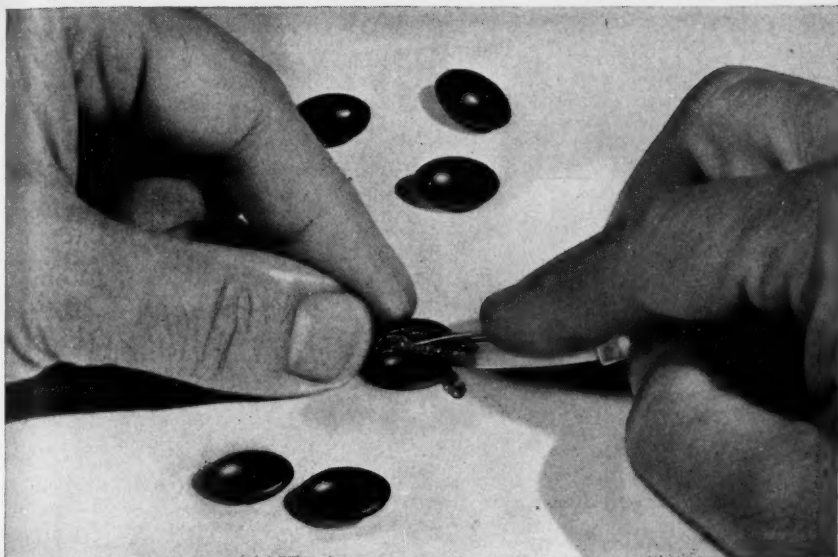
In a typical case report, the increase in energy rose from an average of about 60 watts per day during the period of training to an average peak of 165 watts per day under administration of 60 Gm. gelatine U. S. P. XI (Knox) per day in addition to control diet.

Another male subject increased daily output of watt-energy from 100 to 225 during the gelatine regime, increasing a total of 10 lbs. in body-weight while under observation, 8 of which were permanently retained. The authors conclude that men, when given adequate supplements of gelatine invariably increase their normal amount of work produced before fatigue sets in, up to 240% of the normal training level. Women react less favorably, possibly because of lower creatine-storage ability.

The doubling of muscular power and productivity through administration of gelatine U. S. P. XI (Knox) in 60 Gm. daily doses indicated industrial as well as therapeutic possibilities.

Other recent researches have been made into the utility of high protein dietary items such as gelatine. In addition to relieving muscular fatigue, Windwer and Matzner in the *Amer. J. Digest. Dis.* (V, 2, 743 (1939)) suggest the use of

—Continued on page XXVI



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Dietetic Digest

THE increased importance of the field of nutrition has prompted a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages is presented the current literature in this field, abstracted by

Madeline Oxford Holland, B.Sc., M.Sc.

gelatine in the treatment of peptic ulcer. Theoretically, a high protein diet should favorably influence the symptom-complex of peptic ulcer, for proteins neutralize by their acid-binding properties, inhibiting peptic activity. Proteins supply ample amino-acids and restore a deficiency believed by many to be a causative factor in the production of peptic ulcer.

On the basis of experiments conducted by others, Windwer and Matzner undertook a clinical study of 40 ambulatory patients of clinical and roentgen-ray corroboration of peptic ulcer, with an average duration of 8 years.

A bland, high caloric diet was used, consisting of 150 Gm. protein, 100 Gm. fat and 200 Gm. of carbohydrate. Among the protein materials was sugar-free, flavor-less gelatine U. S. P. XI (Knox), selected because of its availability, relatively low cost, non-toxicity and the ease with which it lends itself to frequent administration. Dosages every hour for seven doses daily, of 8 Gm. in $\frac{1}{4}$ glass of water each, were given.

Of the forty patients tested 70% showed immediate cessation of symptoms, with two-thirds of the remainder improving gradually. The subjects gained weight and overcame the tendency to under-nutrition. Frequent feedings with gelatine apparently caused more prolonged neutralization of gastric juice.

Pottenger believes that gelatine by its hydrophilic colloid action, lessens gastric irritation by absorbing digestive secretions. The gelatine glycine is an excellent muscle and tissue builder and may favorably influence the healing of peptic lesions.

Zinc Content in Diet

WHETHER zinc is an essential element in human nutrition is a debated question according to Scoular in the *Journal of Nutrition* (17, 103, 1939, 2).

Many of the common foods consumed by man are rich in zinc and man is believed to ingest from 10-15 mg. of zinc per day. Zinc in human urine ranged from 0.6-1.6 mg. per day. When foods were selected to increase the zinc content of the diet, urinary excretion did not increase appreciably while the fecal elimination corresponded more nearly with the intake, frequently extending over a period of several days.

The author in 45 balance studies with three normal boys of preschool age studied the zinc lines of the spectrograms of ashed food, feces, urine, distilled water and acid alcohol as compared with spectra produced by solutions of known zinc content.

From 0.4-6.0% of the ingested zinc was eliminated through the urine. The rest of the excreted zinc, representing from 42-164% of the ingested amount, was eliminated through the alimentary tract.

Since more than two-thirds of the 35 balance studies gave retentions which were significantly greater than the error determined for the method used, it would seem that zinc is associated with physiological functioning.

On the basis of the limited ingestion range studied the author tentatively concludes that 0.307 mg. of zinc per kilogram of body weight will supply the zinc needs of the preschool age child.

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IRON-DEFICIENCY ANEMIA IN CHILDHOOD

IRON-DEFICIENCY anemia in infancy and childhood occurs more frequently than is ordinarily believed. Mackay has reported on a series of 1,100 poor children all of about one year of age and found with the following incidence:

Anemia in breast-fed infants	42%
Anemia in artificially fed infants	70%

Anemic infants have twice the susceptibility to infection as do those who have received prophylactic iron treatment. Infants treated with iron for three months weigh from one to two and one-half pounds more than untreated controls. If prophylaxis were carried out on a large scale throughout the country, a much healthier infant population would appear, and hence a lowered infant mortality rate.

Strauss and Lottrup have found that ferrous salts are established as the most convenient, effective and inexpensive form of iron administration in iron-deficiency anemia.

Strauss, Castle, Minot, Fallon, Davis,

and Ray as well as many others have condemned costly, ineffective "shot-gun" preparations substituted for simple ferrous iron therapy.

A method of presenting ferrous sulfate in a stable but palatable form is Feosol elixir in a dosage of one or two teaspoonfuls three times daily for children and two to four for adults. Each fluid dram contains two grains of ferrous sulfate. The Feosol tablet contains three grains of ferrous sulfate, specially coated to prevent oxidation and promote disintegration.

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NEW MODERN ANTACID SILMACOL CONTAINS MAGNESIUM TRISILICATE

AMFRE Drug Company of New York City announces SILMACOL, a new gastric antacid. It is composed of magnesium trisilicate (50%), colloidal kaolin (25%), and aluminum hydroxide (25%),—ingredients which have for some time been used successfully in the management of gastric hyperacidity and peptic ulcer. Concerning magnesium trisilicate, Dr. Hardy of Birmingham, England, says: "It bids fair to supplant all other alkalis in the treatment of peptic ulcer." One report on Silmacol has already been published in medical literature, and further papers will follow as investigations with this new product proceed in prominent hospitals. Silmacol is available in tablets and capsules, each 8 grs. and powder, 4 oz. tins.

Urine Test for Pregnancy

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XXVIII

MEDICAL TIMES, APRIL, 1939

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sex-stimulating hormone known*

IN ADDITION to greater potency, this hormone in its purified form—Gonadin—promises marked advantages over gonadotropic hormones derived from human pregnancy urine.

Unlike the urinary products, it is not excreted by the kidney; and Evans (8) has shown that it completely replaces the pituitary gonadotropic hormones in both male and female hypophysectomized animals. Used experimentally in males of both large and small animals, it has proven effective in the treatment of impotence and azoospermia; and ovulation, follicle maturation and corpus luteum development have followed treatment in all species of females tried.

Carrying this laboratory work to its ultimate conclusion, Davis and Koff (11) have

shown that this hormone will produce ovulation in the human ovary; and other investigators, whose work is as yet unpublished, have brought about an encouragingly high percentage of pregnancies in cases of functional sterility.

Bibliography:

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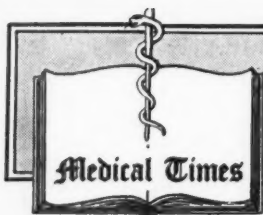
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Dietetic Digest

Iron Ascorbate in Anemia

FRIEND in the *New England Journal of Medicine* (219, 910, 1938) reports the preparation of iron ascorbate to be given intravenously in anemia. No serious reactions occur from its use. Studied clinically in treatment of 21 patients with various types of anemia it was found to be an effective form of medication.

Iron ascorbate contains 15% iron, with the ferrous ion united with a molecule of ascorbic acid (which is normally present in the human body under physiological conditions). Owing to the extreme cost of manufacture of the ascorbic acid the drug in combination is rather expensive. An added disadvantage is that it is unstable.

In cases of anemia associated with subnormal levels of vitamin C, such as scurvy, duodenal ulcer and nutritional anemia, iron ascorbate is valuable since it retains vitamin C activity. Ten mg. of iron ascorbate have been proven as effective intravenously as 32 mg. of iron and ammonium citrate. In oral administration 200-300 mg. of iron ascorbate are equivalent to 1000 mg. of reduced iron or 4000-6000 mg. of iron and ammonium citrate.

A satisfactory rise in daily hemoglobin level occurred in 3 patients having anemia due to blood loss and in 15 patients exhibiting anemia from chronic blood loss, nutritional lack or idiopathic hypochromic anemia. In the above cases the average daily hemoglobin gain was

1.1% and 1.5% in 3 cases where hemoglobin values were less than 50%. The red cell count began to rise before the hemoglobin content.

In 2 patients with rheumatic fever and anemia and 2 with chronic glomerular nephritis and anemia there was no satisfactory response to the regular dosage of iron ascorbate. The iron ascorbate was tolerated without any bad effects and gave good results in two patients sensitized to iron and experiencing nausea, diarrhea and cramps whenever any other iron preparations were administered.

Diet in Polyneuritis

MASTEN in the *Wisconsin Medical Journal* (37, 1009, 1938, 11) states that lack of a general well-balanced diet is an important factor in polyneuritis associated with alcoholism and pregnancy.

It is important that early signs of vitamin deficiency be recognized, such as any combination of the following symptoms: anorexia, constipation, diarrhea, stomatitis, sore tongue, ulcers of the mouth, indigestion, tachycardia and weakness, dyspnea on exertion, loss of weight, changes in texture and color of the skin, brittle and flattened nails, fatigue, and in some instances, edema of the extremities.

Polyneuritis appears clinically in 7 to 21 days when there is a complete lack of vitamin B complex. Symptoms are first fleeting, then progressive, localized, and continuous.

Polyneuritis in pregnancy is explained by the fact that increased vitamin B, consumption increases the caloric intake, weight and metabolism. Non-pregnant women therefore require less than pregnant women.

The author states that in treating polyneuritis the fact should be kept in mind that if there is a deficiency of one vita-

—Continued on page XXIV

THE increased importance of the field of nutrition has prompted a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages is presented the current literature in this field, abstracted by

Madeleine Oxford Holland, B.Sc., M.Sc.



Ferrous Iron That Remains Ferrous —

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Dietetic Digest

min, there may also be a deficiency of other vitamins.

Vitamin B complex should be given in large doses since such doses produce a greater percentage of good results than smaller or moderately large doses over a long period of time. Seventeen men, with uncomplicated mild neuritis were placed on diets including four times the restricted vitamin B complex requirement of a 60 Kg. subject. Alternate patients of the 17 were given an additional 10 mg. of crystalline vitamin B intravenously each day. Better progress was shown in the latter group than in the controls showing that improvement varies directly with the vitamin intake up to an optimal dosage. The optimal dosage, although not definite is believed to be at least four times the predicted maintenance requirement.

Vitamin B₁₂ may be given intravenously in doses up to 50 mg. daily in pregnancy. There is no danger of overdosage in cases of avitaminosis B₁₂ since no symptoms of hypervitaminosis B have been reported. Liver extract in doses parenterally of 20 c.c. 3-5 times a day is also suggested. Brewer's yeast, 100 Gm. daily, may be taken orally if there is no vomiting.

In cases of acute poisoning due to lead or arsenic, the author suggests that they be given high caloric diets and supplementary vitamins in addition to treatment for elimination of the metal so that polyneuritis may be avoided.

Banana Therapy in Diarrhea

THE use of raw apples and apple powder in the treatment of acute diarrheal disturbances of infants and young children has given rise to the development

of banana therapy, according to Socola in the *New Orleans Medical and Surgical Journal* (91, 192, 1938, 4). The following types of diarrhea were studied—dietetic, infectious, parenteral and bacillary dysentery—in regards to clinical improvement, stool frequency of four or less in 24 hours and the character of stools. Banana (or banana powder) therapy was found to be particularly desirable in the first four months of life. Weight gain was shown generally, any losses occurring being negligible. Clinical improvement was associated with the early appearance of the characteristic banana stool. In handling cases of diarrhea in infants and young children, the author suggests that banana or banana powder therapy is safe, practical and efficient. The effects of the banana are believed due partly to diminution of bacteriolysis in the colon, with diminished absorption of bacterial nitrogen.

Sources of Vitamin D

LINDSAY and Mottram in the *British Medical Journal* (Jan. 7, 1939, p. 14) state that natural sources of vitamin D are not necessarily expensive, since herring contain 600-1000 units per 100 Gm. and tinned salmon 200-800 units per 100 Gm. A moderate helping of approximately 3½ ounces would provide sufficient vitamin D for a day. Cooked or canned fish may be used since cooking does not destroy the vitamin. New forms of administration of the vitamin are as a sauce, mayonnaise and batter with the fish-liver oils replacing part of the fat. The following recipes are presented:

Sauce

1—Cod Liver Oil	f3ss
2—Flour	3ss
3—Salt	
4—Pepper	
5—Anchovy essence	aa qs
6—Milk	f3viii

Heat gently 1, 2, 3, 4, 5, and add 6

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(off the boil). Stir till boiling. One-half ounce yields 40-200 units of vitamin D.

Mayonnaise

1—Egg yolk	1
2—Sugar	3i
3—Salt	
4—Pepper	
5—Mustard	aa qs
6—Cod Liver Oil	f3iv
7—Lemon Juice	f3iv
8—Worcester sauce	f3iv
9—Milk	f3iv—f3i

Add slowly with beating f3ii cod liver oil to 1, 2, 3, 4, 5, then 7 and 8 and then the remainder of 6. Vinegar or extra lemon juice may be added for flavor. Finally stir in f3iv—f3i of milk to desired consistency. One-half ounce contains from 1700 to 8000 units of vitamin D.

Batter

Flour	3ii
Breadcrumbs	3i
Seasoning	qs
Cod Liver Oil	f3iv
Milk	qs

Add milk to produce a coating consistency, beat and cool.

Food Allergy

HOPKINS in the *New York State Journal of Medicine* lists generalizations to be remembered in considering food allergy:

1. *The Hereditary Tendency*—family

history usually shows that relatives have suffered from food allergy or some form of protein sensitization.

2. *Time of Reaction*—in food allergy the reaction usually appears soon after the food is eaten.

3. *Allergy in Children*—Infants are often sensitive to egg, milk, wheat and other common foods. Shellfish or other unusual foods usually cause outbreaks in adolescence.

4. *Desensitization*—Infants often become desensitized in late childhood. Certain highly sensitized individuals remain intolerant throughout life.

5. *Reactivity*—Reactivity to an old antigen to which the patient had seemed desensitized may occur when he becomes sensitized to a new antigen. For example, a patient who had outgrown his infant sensitivity to milk again became sensitive to milk during an attack of ringworm dermatitis.

6. *Sequence in Sensitization*—Some patients after being sensitized to one food, tend to become sensitive to new foods and then to proteins they inhale such as silk, pollens, molds and other dust constituents. Infants with eczema usually

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Dietetic Digest

have gastroenteric symptoms and later are likely to show allergic symptoms such as asthma, hay fever, migraine or shock.

Some patients react differently to the same foods. Eczema, urticaria and asthma may be caused by one food in some patients whereas only one condition may arise from the same food in other persons.

Reactions in the skin occur after absorption of the food from the intestinal tract. Positive patch tests are very rarely obtained on the unbroken skin—the skin must be scratched and the allergen rubbed on it or the substance may be injected intradermally, with an immediate urticarial wheal produced.

Oily constituents of food such as oil of orange peel or cinnamon oil give positive patch tests, produce typical contact dermatitis and do not come under the general rules.

The author suggests the use of soy

bean preparations as substitutes for milk, and oral desensitization in case of egg, milk or wheat allergism. In cases of minor unimportant foods, they may be excluded from the diet entirely.

Value of Dextrose Solutions

WINSLOW in *Surgery* (4, 867, 1938, 6) presents the results of a study made on the effects of intravenous administration of 5% and 10% dextrose solution for 2-10 days in 26 post-operative and 1 pre-operative male patients. The 10% solution was mildly diuretic whereas the 5% was not. With the 5% solution, glucose retention was 98%, and 95% with the 10% glucose solution. Of each solution 3500 cc. were given daily at rates of 200 to 500 cc. per hour. When high caloric or carbohydrate intake is desired such as in liver damage, cachexia, inanition and thyroid crisis the 10% solution should be used whereas the 5% solution is advisable in surgical cases with good nutrition. There were no harmful effects from either solution.

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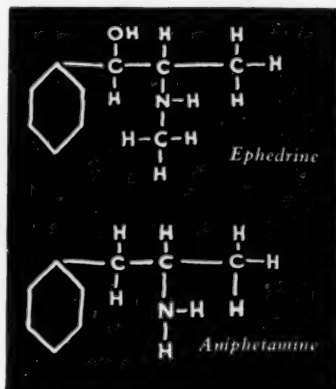
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TEN years ago chemists prepared amphetamine, a vasoconstrictor with potency equal to or greater than that of ephedrine and effective in the vapor phase. Its chemical structure placed it in the arylamine series and may be illustrated as:



Effectiveness plus volatility are characteristics which led Bertolet in 1932 to indicate for it wide use in nasal congestion in head colds, hay fever and sinusitis. Since then it has been found valuable when used in an inhaler form. This has been borne out by the work of Scarano and Giordano.

The inhaler is convenient and much more effective than a liquid inhalant administered in drops. Children according to Coppalino and Scarano, and Vollmer, are more apt to accept it for inhaling with less objection than they would liquids.

Wood, in *Arch. Otolaryng.* (1935), 21, 588, stated that it may be also used with special adaptors for insufflating the eustachian tube. A eustachian catheter is fitted by means of an adapter to one end of an inhaler and an air supply to the other.

This may be used in general office practice for treating common nasal conditions, simply by connecting the air supply to the one end of the amphetamine inhaler and by blowing the amphetamine vapor into the nostril through the regular nasal tip without the catheter.

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SCHIEFFELIN REWARDS EMPLOYEES

MR. W. J. Schieffelin, Jr., on March 23 addressed a gathering of the employees of Schieffelin & Co., and presented to a large number service pins symbolic of long service.

Pins of bronze were presented to 101 employees for service of from five to ten years, and to 108, pins of silver for service of from ten to twenty-five years.

Also honored, with gold pins, were those whose services covered twenty-five years or more; for forty to fifty years service, a gold pin with one diamond and over fifty years a gold pin with two diamonds.

Six members of the Schieffelin staff held this latter award, with Mr. George Patterson taking top honors with a record of 61 years of service.

Mr. Schieffelin pointed out that the emblems were replicas of the well-known Schieffelin trade mark which features the 1794 sailing vessel and slogan "Quality, Integrity, Service."

PLANE DASH TO PROVIDE EMERGENCY TREATMENT

A RECENT news item about one of these "mercy plane" dashes has to do with a product of McNeil Laboratories, Philadelphia.

A nun in a Denver Hospital being badly burned, Dr. Aldrich the eminent specialist of Boston, was consulted. He advised the use of *Dymixal*, a McNeil specialty for the treatment of burns.

This is a combination of certain dyes, in a formula which has proven effective in preventing the spread of infection, relieving pain, encouraging epithelization, and softening the scar formation.

The emergency treatment lot of the product was rushed by plane from Boston to Denver with a later shipment direct from McNeil Laboratories.

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MEDICAL TIMES, MAY, 1939

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#2 50-day-old rat, 20th day of pregnancy



#3 Normal 50-day-old control

Photographs courtesy of H. H. Cole, Ph. D.,
University of California

As is apparent in the photographs, Gonadin—the new gonadotropic hormone from the blood of pregnant mares—stimulates the sex organs to their normal function. Rats of the breed pictured normally mature when about 60 days old.

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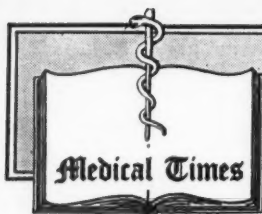
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Dietetic Digest

Antiscorbutic Power Differences

C LUCONIC acid and calcium gluconate differ from the related ascorbic acid and calcium ascorbate in having no antiscorbutic power; being less soluble in water; possessing a lesser degree of ionization and an inferior affinity for serum proteins according to Jonnard and Ruskin in *Comptes rendus societe de biologie* (128, 266, 1938) Calcium is also believed to unite with a different serum protein fraction than does vitamin C when the two are added separately to diluted blood serum, since the two produce opposite effects from those produced when they are added in conjunction.

Calcium Source in Bone Meal

O LSEN in *Ugeskrift Laeger* (100, 679, 740, 1938) through *Nutrition Abstracts and Review* (8, 510, 1938, 2) suggests the use of bonemeal as a source of calcium in the form of a preparation containing 56.2% calcium oxide, 1.16% magnesium oxide, 0.105% fluorine. The author has found this preparation to have excellent effects on general well-being and increases the milk yield in pregnancy and lactation. He also suggests it for use in the post-operative treatment of parathyroid tumor where the skeleton is seriously depleted; in diabetes with acidosis; with cod liver oil in rickets, tetany, osteomalacia; in chronic infections such as

bronchitis and tuberculosis; and in heart conditions with edema. The author believes that giving bonemeal provides all the natural constituents rather than calcium and phosphorus alone.

The dose administered of the preparation mentioned above is 5 Gm. daily with proportionate doses for children. However, Olsen warns that the fluorine in the bonemeal may cause mottling of the enamel of the teeth and of the 5 mgm. given daily to lactating women enough may be transferred in the milk to mottle the tooth enamel of children. Approximately 0.07 mg. per Kgm. body weight will produce mottling in children so that the medicine administered directly to children may also have this effect. The mottling is not a disease, but rather a cosmetic fault. Some claim that mottled teeth are more resistant to caries.

Vitamin K

S NELL, Butt and Osterberg in the *American Journal of Digestive Diseases* (5, 590, 1938, 11) show that oral administration of the fat soluble vitamin K and bile salts increases the concentration of prothrombin, thus reducing the clotting time of the blood. The vitamin alone in hemorrhage with obstructive jaundice will have little or no effect. The authors suggest that the bile salts facilitate absorption of vitamin K already present in the intestinal tract.

Carbohydrate Oxidation

THE oxidation of carbohydrate by normal human subjects has been studied by Johnston, Sheldon and Newburgh in the respiration chamber following various degrees of depletion of the carbohydrate reserves according to the *Journal of Nutrition* (17, 199, 1939, 3). The failure to oxidize all of the ingested carbohydrate appears to be related to the

—Continued on page XXIV

THE increased importance of the field of nutrition has prompted a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages is presented the current literature in this field, abstracted by

Madeline Oxford Holland, B.Sc., M.Sc.



HEMATINIC PLASTULES FOR IRON DEFICIENCIES



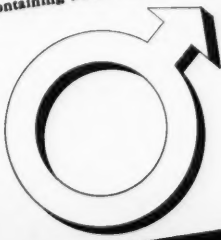
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Dietetic Digest

degree of depletion and will result when the depletion is severe enough even though the calories of the diet are significantly below the maintenance requirements of the subject.

Impairment of oxidation occurred when the stores were greatly reduced by sharp reduction of the intake of calories and carbohydrate. One might expect that the organism under these circumstances would oxidize all the incoming carbohydrate for energy purposes. On the contrary, it stores considerable portions even though the energy expenditure far exceeds the intake. Apparently it is more important to replenish the carbohydrate stores than to use the incoming carbohydrate for fuel.

Copper-Iron Catalysis in Anemia

HUTCHISON in the *Quarterly Journal of Medicine* (7, 397, 1938, 7) advances the theory that copper acts as a catalyst with iron in iron-deficiency anemia in infants. Ferrous sulfate was administered in several cases until the hemoglobin level became stationary. When copper was then administered the level increased. Copper also produced a rise in a few cases where small doses of iron were given to build up an iron storage with no increase of hemoglobin. The author believes that the copper acts in such a manner that storage iron is carried to the bone marrow where it is made into hemoglobin.

Dietetic Treatment of Allergy

SR. M. DAVIDICA in *Hospital Progress*, (XX, 132, 1939, 4) states that in the dietetic treatment of allergy, the principles of nutrition must be adapted to the therapeutic measures employed. It is sometimes necessary to restrict for a prolonged period some specific types of food which are reliable sources of protein, minerals and vitamins. A food supply, which is adequate in terms of quality and quantity is essential to allow for increased energy expenditure and tissue construction during the period of growth and development.

The author states: "Adequate diets based upon percentage distribution of the calories among the food groups allowed is a practical means of securing a well balanced food supply. The problem of planning an adequate diet for an allergic child embodies principally the adjustment of the caloric distribution when egg, wheat, or milk must be avoided. Although chocolate, orange, and tomato are frequently allergens, their elimination does not involve any adjustment in caloric distribution. The same applies to any other specific vegetable or fruit which needs to be avoided.

Diets in which egg must be omitted simulate a normal diet very closely. The usual milk allowance of one quart provides approximately fifty per cent of the calories, more than fifty per cent of the protein requirement, adequate calcium, phosphorus, and an appreciable amount of vitamin "A." Three and one half cups of fresh milk or one 14½-ounce can of evaporated milk is a practical amount, for with the addition of cereals, fruit, and vegetables it supplies approximately 1 gram each of calcium and phosphorus. Liver, substituted for egg, is an excellent source of iron and vitamin "A."

THE protein requirement can be made up chiefly with meat and liver. Three ounces of meat and one ounce of liver is not an impractical amount for a child of four, if it is given in small portions at each meal. The use of ground liver in the form of little patties offers a convenient way of utilizing this amount. Chopped parsley adds to the palatability of meat patties, and also supplies vitamin "A." One tablespoon of chopped parsley contains four times as much vitamin "A" as one and one-half tablespoons of butter. The use of liver, green leafy vegetables, carrots and cod-liver oil provides ample vitamin "A."

When wheat must be avoided, the number of calories from cereals is reduced with a consequent increase in calories from fats and sugars. A large percentage of calories from sugars and sweets is not impractical, however, for jams and preserves can be efficiently utilized, and molasses provides not only calories but calcium and iron as well. The use of rice flour, potato flour, and others as a substitute for wheat flour is not of practical value for families of

limited income. They are expensive and results are often disappointing. Corn bread with molasses is well liked. Rice muffins made with cooked rice and rice krispies have been used satisfactorily.

The elimination of milk requires careful attention to securing a proper intake of protein, calcium, phosphorous, and vitamin "A." The percentage of calories from meat, vegetables, fruits, cereals, and sugars must be increased in order to secure these.

Milk, evaporated or powdered, may sometimes be tolerated when sensitization to fresh milk exists.

If cod-liver oil must be eliminated, viosterol or Drisdol supplies vitamin "D."

When orange juice and tomato juice must be excluded, bananas, pineapple juice, lemon juice and dried peaches, meet the known requirement for vitamin "C." Vitamin "C" products may be given in addition in order to insure sufficient vitamin "C."

Thin rice gruel with lemon and sugar, or pineapple juice, mashed ripe bananas in pineapple or peach juice make convenient beverages for milk-free diets. If calcium carbonate is used as a supplement, its addition to an acid beverage makes it a slightly effervescent and palatable drink.

Summarily, the guiding principles in planning adequate diets for allergic children are the following:

1. The diet must be planned according to individual caloric and protein requirements; also in accordance with specific food sensitization.
2. The total calories must be properly distributed among the different food groups; milk, egg or liver, meat, vegetables and fruits, nuts and legumes, fats and oils, cereals, and sugars. Adequate protein, minerals, and vitamins will then be insured.
3. The use of common and low-cost foods simplifies the dietetic management of allergic children.

Nutrition in Pregnancy

UNTIL nearly the present time unknown toxins were believed to be the cause of many undesirable symptoms and conditions in pregnancy. Strauss in the *Journal of the American Dietetic Association*

(15, 231, 1939, 4) suggests that some of these disturbances may be due to inadequate maternal nutrition. Polyneuritis during pregnancy is treated effectively with thiamin. The author suggests parental administration of thiamin to all pregnant women suffering from vomiting since the latter conditions are often followed by polyneuritis. When vomiting has ceased the vitamin may be administered orally. Lack of vitamin B may also bring about cardiac failure in pregnancy. The relatively rare pernicious anemia in pregnancy may occur from lack of a material closely related to the vitamin B complex and a constituent of beefsteak. A high incidence of latent scurvy may cause tender gums. The former condition may also be related to postpartum hemorrhage. Increased incidence of urinary tract infections may occur as a result of a vitamin A deficiency. Lack of vitamin K in the mother may cause hemorrhage disease in the newborn child.

The author suggests that the following quantities of vitamins be given daily to pregnant women:

Vitamin A	5000 International Units
Thiamin	2 mgm.
Vitamin B ₂ Complex	1000 Sherman-Bourquin Units
Riboflavin	4 mg.
Nicotinic Acid	100 mg.
Vitamin C	100 mgm.
Vitamin D	800 U.S.P. Units
Other Accessory Food Factors	
Calcium	2.5 Gm.
Iron	30 mgm.

Free and Bound Vitamin B₁ in Milk

ACCORDING to Houston and Kon in *Nature* (143, 558, 1939, 3622) milk is believed to contain free vitamin B₁ and a bound form of vitamin B₁—protein complex which may be separated by filtering through cellophane. If raw milk or reconstituted dried milk is digested with pepsin or incubated with takadiastase at a pH of 3.7—4.0 the fluorimetric assay values are practically doubled. Without this treatment the values of vitamin B₁ in milk obtained by the fluorimetric assay are but 50% of the values given in the biological assay. Such experiments lead to the theory that vitamin B₁ is present in the free form as shown by preliminary fluorimetric assay with the bound form released from the protein combination by the enzyme and thus showing up in the subsequent assay. The biological assay naturally would show values of total vitamin B₁.

—Concluded on page XXVI

Dietetic Digest

Calcium Balance in Adults

ACCORDING to Steggerda and Mitchell in the *Journal of Nutrition* (17, 253, 1939, 3) Mitchell and Curzon derived an equation to describe the average relationship in adult human subjects between the output of calcium and its intake:

$$y = .6826x + 3.0940$$

where y is the calcium output in milligrams per kilogram of body weight per day and x is the intake of calcium expressed in the same fashion. In the experiments carried out, the average body weight of the subject in the three experimental periods in which no calcium supplement was added to the basal diet was 81.1 Kgm. His average daily intake of calcium per kilogram of body weight was therefore $195 \div 81.1 = 2.40$ mgm. His average output on the same basis was $304 \div 81.1 = 3.75$ mgm. Placing the former value for x in the above equation, gives a value for $y = 4.73$ mgm., about 26% higher than the observed output of 3.75 mgm. per kilogram. This divergence from the average relationship is perhaps not surprising in view of the disparity existing among the data from which the equation was derived. The coefficient of x in this equation indicates an average utilization of 32% ($[1 - .6826] \times 100 = 31.74$) of the dietary calcium.

About 540 mgm. of calcium either in skim milk powder or in calcium gluconate seemed sufficient to attain calcium equilibrium in this subject in addition to the 195 mgm. of calcium in the basal foods. Equilibrium was thus attained on a total

of 735 mgm. of calcium, equivalent to about 9.2 mgm. per kilogram of body weight.

The daily addition of 540 mgm. of calcium in the form either of milk or solids or of calcium gluconate to the basal diet changed the daily calcium balance from an average of —110 mgm. to approximately 0. In other words 540 mgm. of calcium in these forms were required to replace an endogenous loss of 110 mgm., indicating a utilization of the dietary calcium of about 20%. This is a much lower utilization of milk calcium, or of dietary calcium of any origin, than is frequently assumed.



FETUS IN TOXEMIA

—Concluded from page X

3. The average birthweight in eclamptic group was five pounds six ounces; 28 per cent of whom were less than four pounds six ounces.

The average birthweight in the pre-eclamptic group was six pounds four ounces, 13 per cent of whom were less than four pounds six ounces.

4. Only one infant showed postmortem evidence of change due to maternal toxemia. Three others showed brain changes that may have been due in whole or in part to the maternal toxemia.

5. Maternal toxemia did not seem to effect any permanent damage in infants who survived.

6. It is advisable for eclamptic mothers to nurse their babies when the signs of toxemia have disappeared.

—Vincent Del Duca, M.D.
in *J. Med. Soc. N. J.*, March, 1939.



For her benefit prescribe a safe Antispasmodic and Sedative

Prescribe HVC (Hayden's Viburnum Compound), a safe and long tested antispasmodic and sedative which relaxes the smooth muscles and contains no narcotics or hypnotics.

HVC is indicated not only in general medicine but also in Obstetrical and Gynecological practice.

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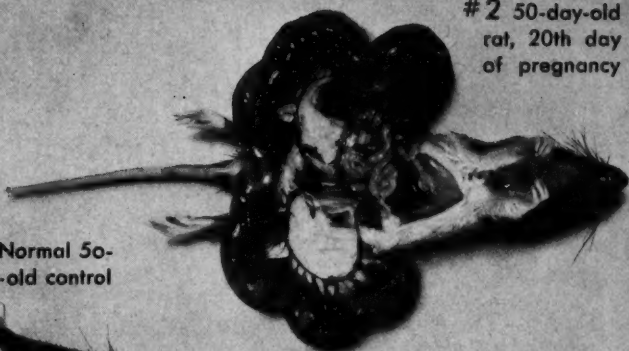
HVC



Stimulation of NORMAL SEXUAL FUNCTION with GONADIN



#1 Normal 28-day-old control



#2 50-day-old rat, 20th day of pregnancy



#3 Normal 50-day-old control

As is apparent in the photographs, Gonadin—the new gonadotropic hormone from the blood of pregnant mares—stimulates the sex organs to their normal function. Rats of the breed pictured normally mature when about 60 days old.

Photographs courtesy of H. H. Cole, Ph. D.,
University of California

"Rat #2 received 8 units of Gonadin on 28th day—bred within 60 hours"

Stability: Because of the greater convenience to you in administration, Gonadin is marketed in liquid form. As with other biologicals sufficient excess is added to insure full labeled strength at expiration date nine months from date of issue, even though not refrigerated. Under proper refrigeration Gonadin remains potent over 18 months from date of issue; although it is returnable for exchange at expiration date.

Indications: In the female, Gonadin is indicated in the treatment of amenorrhea, functional bleeding, hypopituitary infantilism and sterility. In the male, Gonadin is indicated in the treatment of sterility due to non-motile sperm.

Package: Gonadin is packaged in 600 unit cartons containing 3—1 c.c. rubber-stoppered vials of 200 units each of sterile solution ready for injection.



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Dietetic Digest

Posterior Pituitary for Peptic Ulcer

METZ, Lackey, Wigby, Small and Paterson at the recent A.M.A. meeting (St. Louis, May, 1939) stated that mild symptoms of *diabetes insipidus* were observed in several cases of duodenal ulcer. This suggested a related etiology for the two disorders, and led to the use of posterior pituitary preparations for peptic ulcer. Solution of posterior pituitary by hypodermic administration was first employed and then discarded because of undesirable side-effects. Posterior pituitary powder has been used by both the oral and the intranasal route, the latter proving more satisfactory. Seventy patients with peptic ulcer have been treated and followed for from three months to three years. Satisfactory results have been obtained in the great majority of cases without the use of other therapeutic agents or a strict dietary regimen. Changes in gastric secretion and fluoroscopic and gastroscopic observations in patients under pituitary treatment and in animals subjected to extirpation of the posterior body offer evidence of a relationship between the posterior pituitary body and the ulcer syndrome.

Magnesium Trisilicate in Peptic Ulcer

KRAEMER in a paper presented at the recent A.M.A. Meeting states that in 1936 hydrated trisilicate of magnesium

was suggested by Mutch for use as an antacid for treating peptic ulcer. The author has used the alkali in over 100 cases of roentgenographically proved duodenal and gastric ulcers. Most of these cases have been followed for from six months to one and one-half years. As much as 200 grains (13 Gm.) a day has been taken without appreciable untoward effects on the bowels, appetite or carbon dioxide-combining power of the blood. Ambulant or hospital ulcer diets were followed, with the substitution of magnesium trisilicate for the alkalies previously employed. With few exceptions relief was prompt, with freedom from recurrence. Hydrated magnesium trisilicate is an excellent antacid for treating peptic ulcer and bids fair to replace many alkalies now in use.

Estimating Nutritional Status In Children

TUXFORD in the *Journal of Hygiene* (39, 203, 1939, 2) presents modifications of Livi's formulae for estimating the physique and nutritional status of children.

Livi's formula is:

$$\frac{100}{\text{Ht.}} \sqrt{\text{wt.}} \quad (\text{Kg})$$

$$(\text{cm.})$$

$$\frac{\text{Weight for height index}}{\text{Actual weight}} = \frac{\text{Normal weight corresponding to height}}{\text{Actual weight}}$$

Tuxford's modifications:

$$\text{Boys} \quad \frac{\text{wt. (lb.)}}{\text{ht. (in.)}} \times \frac{379 - \text{age (mos.)}}{300}$$

—Continued on page XXII

MEDICAL TIMES, JULY, 1939

THE increased importance of the field of nutrition has prompted a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages is presented the current literature in this field, abstracted by

Madeline Oxford Holland, B.Sc., M.Sc.



HEMATINIC PLASTULES FOR IRON DEFICIENCIES

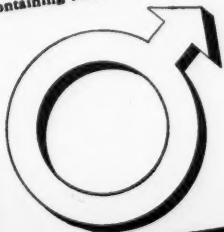


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Dose . . . 2 Plastules T. I. D.

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Easy to take *Because . . .*

- 1** *Easy to Swallow*—Hematinic Plastules are small gelatin capsules.
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- 3** *One After Each Meal is Sufficient*—The suggested daily dose is three Hematinic Plastules Plain.
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Dietetic Digest

Girls wt. (lb.) 355 — age (mos.)
 ht. (in.) 270

1.200 or 1.250 are approximately the optimum values for this index. The author presents also a chart which gives the values for various factors already calculated.

Food Functions and Diet Differences

MOTTRAM in *The Practitioner* (141, 747, 1938) states that the functions of food are threefold:

1. It builds the body and compensates for wear and tear.

2. It provides the body with energy, either to be used in producing work or in producing heat.

3. It supplies sundry hormones and chemical (vitamin) regulators pre-manufactured, which the body cannot manufacture for itself.

Dr. Mottram discusses the differences in diet in summer and winter and presents two definite diets—(1) High vitamin winter diet, and (2) summer diet, as well as tables showing the units of vitamins A & D in various foods.

High Vitamin Winter Diet
Carbohydrate 400, Protein 98, Fat 112. Calories 3,000

Breakfast. Stewed dried apricots (4 oz.).
Corn flakes ($\frac{1}{2}$ oz.).
2 eggs—scrambled.
Wholemeal bread (3 oz.).
Butter ($\frac{3}{4}$ oz.—some for eggs).
Marmalade ($\frac{1}{4}$ oz.).
Sugar (1 oz.—some for cooking fruit).
Milk (4 oz.—with cereal and with tea or coffee).
Tea or coffee.

11. A.M. Cup of Marmite.

Dinner. Meat—average fat ($2\frac{1}{2}$ oz.).
Spinach ($3\frac{1}{2}$ oz.), carrots ($1\frac{1}{2}$ oz.),
potato ($3\frac{1}{2}$ oz.).
Orange
Apple
Banana
(2 oz. each, making fresh fruit salad).
2 small biscuits (1 oz.).
Butter ($\frac{1}{2}$ oz.—some with vegetable).
Cheese ($\frac{1}{2}$ oz.).
Sugar ($\frac{1}{2}$ oz.—with fruit salad and/or coffee).

Tea Wholemeal bread (2 oz.).
Butter ($\frac{1}{2}$ oz.).
Jam ($\frac{1}{4}$ oz.).
Sugar ($\frac{1}{2}$ oz.).
Milk (1 oz.).
Tea.
Cake (1 oz.).

Supper.

Soused herring ($2\frac{1}{2}$ oz.).
Tomatoes ($3\frac{1}{2}$ oz.).
Wholewheat bread (3 oz.).
Butter ($\frac{1}{2}$ oz.).
Jam ($\frac{1}{4}$ oz.).
Figs or other dried fruit (3 oz.).
Milk ($\frac{1}{2}$ pint).

Summer Diet
Carbohydrate 390, Protein 99, Fat 117, Calories 3,002.

Breakfast. Stewed prunes (4 oz.).
Cereal ($\frac{1}{2}$ oz.).
Cold boiled ham ($1\frac{1}{2}$ oz.).
Tomatoes (4 oz.).
Bread (3 oz.).
Butter ($\frac{1}{4}$ oz.).
Marmalade ($\frac{1}{4}$ oz.).
Sugar ($\frac{1}{2}$ oz.).
Milk (4 oz.—some with cereal and some with tea or coffee).
Tea or coffee.

11 A.M. 2d. ice-cream.

Dinner Meat—average fat ($2\frac{1}{2}$ oz.), cold.
Salad (5 oz.), dressing including 1 teaspoonful oil.
Potato (2 oz.).
Bread (1 oz.).
Stewed apple (4 oz.).
Junket (5 oz.).
Sugar (1 oz.—some for cooking fruit).
2 small biscuits (1 oz.).
Butter ($\frac{1}{4}$ oz.).
Cheese ($\frac{1}{2}$ oz.).
Lemonade (1 oz. lemon juice—sugar from 1 oz. above).

Tea. Bread (2 oz.).
Butter (1-3 oz.).
Jam ($\frac{1}{4}$ oz.).
Cake (1 oz.).
Sugar ($\frac{1}{2}$ oz.).
Milk (1 oz.).
Tea.

Supper. Egg au gratin (1 egg and $\frac{1}{2}$ oz. cheese).
3 oz. bread.
Butter ($\frac{1}{2}$ oz.—some for cooking).
Jam ($\frac{1}{2}$ oz.).
Banana (4 oz.).
Sugar ($\frac{1}{4}$ oz.).
1 biscuit ($\frac{1}{2}$ oz.).
 $\frac{1}{2}$ pint milk.

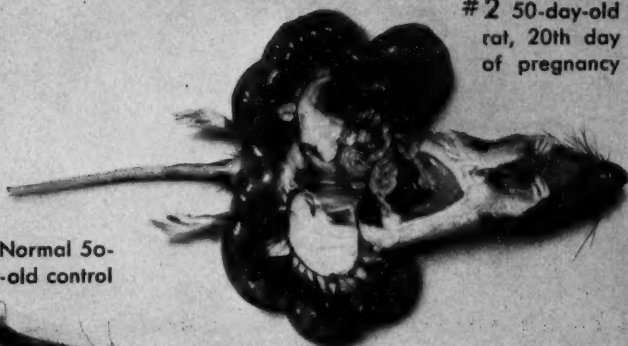
Pantothenic Acid

THAT a universal vitamin is probably essential for the growth of all living things, that is, bacteria, fungi, seedlings, and lowly forms of the higher animals, is indicated in recent reports to the *Journal of the American Chemical Society*. In the same article a partial synthesis of the vitamin is included. The vitamin is part of a large group of B vitamins which include the anti-beri beri vitamin thiamin, the anti-pellagra vitamin, nicotinic acid, and riboflavin. The universal vitamin is called pantothenic acid from the Greek roots indicating that it is "found everywhere." This vitamin was first discovered by Williams who found that it stimulates yeast growth.

Stimulation of NORMAL SEXUAL FUNCTION with GONADIN



#1 Normal 28-day-old control



#2 50-day-old rat, 20th day of pregnancy

#3 Normal 50-day-old control



Photographs courtesy of H. H. Cole, Ph. D.,
University of California

As is apparent in the photographs, Gonadin—the new gonadotropic hormone from the blood of pregnant mores—stimulates the sex organs to their normal function. Rats of the breed pictured normally mature when about 60 days old.

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Stability: Because of the greater convenience to you in administration, Gonadin is marketed in liquid form. As with other biologicals sufficient excess is added to insure full labeled strength at expiration date nine months from date of issue, even though not refrigerated. Under proper refrigeration Gonadin remains potent over 18 months from date of issue; although it is returnable for exchange at expiration date.

Indications: In the female, Gonadin is indicated in the treatment of amenorrhea, functional bleeding, hypopituitary infantilism and sterility. In the male, Gonadin is indicated in the treatment of sterility due to non-motile sperm.

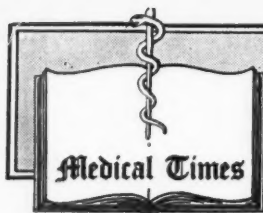
Package: Gonadin is packaged in 600 unit cartons containing 3—1 c.c. rubber-stoppered vials of 200 units each of sterile solution ready for injection.



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Dietetic Digest

Nutrition and Longevity

NUTRITION has been found by Pier-sol and Bortz to play an important part in the longevity of life according to the *Annals of Internal Medicine* (12, 964, 1939). Because of results of animal experiments, addition of generous portions of food rich in calcium and vitamins A and G to the diet is believed to add six or more years to active human existence. A higher-than-average calcium intake improves the utilization of food, stimulates better growth and greater adult vitality with a longer period between maturity and senility, and possibly an increase in the actual length of life.

The calories in the average American diet are adequate, but other values are lacking. Whole milk is just as an ideal food in old age as in infancy. Liver twice weekly, along with iron rich foods in later years, will help to prevent anemia development. Vitamin B₁ is often effective in sluggish digestive powers and gastric atony. A minimum fat content will decrease chances of overweight.

Diet in Infectious Fevers

ACCORDING to Lakin in the *Practitioner* (142, 677, 1939, 852) under the general management of infectious fevers the diet should be restricted to fluids during the stage of pyrexia unless this

is too greatly prolonged. The diet should be nourishing and easily digested, and although metabolism is increased in all fevers, it is usually unnecessary to take special pains to prevent tissue waste unless the case be prolonged or if it is typhoid. Milk flavored with coffee or tea or diluted with soda- or barley-water or alone may be given. If the patient is awake four hourly feedings may be given at night and two-hourly feedings during the day, with five ounces at a time during the day and ten ounces at night so that the necessary three to four pints for the caloric requirements of adolescents and adults is taken in per day. Young children require 36 to 48 ounces and older ones 48 to 60 ounces.

The diet may be supplemented during the fever stage with eggs, custards, cream, beef-tea, jellies or meat extract if the patient suffers from inanition, refuses milk or if the pyrexial period is prolonged. Milk may be fortified by the addition of two teaspoonfuls of lactose to each glass of milk. Dilute the milk with lime water for diarrhea and add cream or give broth or beef-tea for constipation. Encourage the patient to drink as much water as possible.

Eight ounces of peptonized milk is a desired quantity to give a child of four or five who may require nasal feeding.

All food except that which is going to be consumed immediately should be kept out of the sick room and all unconsumed food should be burned if solid or washed away if liquid.

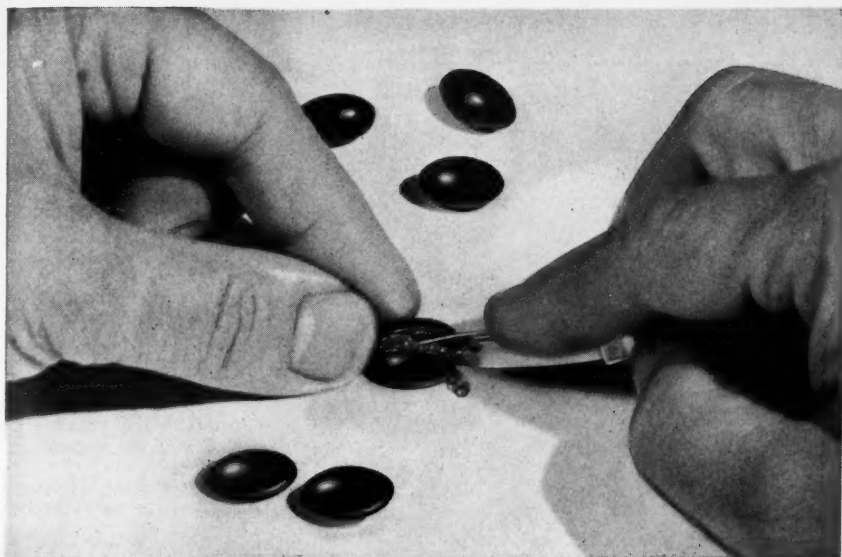
Etiology of Peptic Ulcer

EUSTERMAN in the *Journal of the Medical Society of New Jersey* (36, 369, 1939, 6) states that there are many theories as to the etiology of peptic ulcer. He explains the vascular, chemical or

—Continued on page XX

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Ferrous Iron That Remains Ferrous —
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Repeated tests prove that the iron in Hematinic Plastules remains in a semi-fluid soluble ferrous state indefinitely because the capsule is hermetically sealed. This is an important advantage of Hematinic Plastules as it assures maximum absorption and assimilation of the iron medication.

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Dietetic Digest

corrosive, gastritis, infectious, traumatic, mechanical, endocrine, vitamin deficiency, allergic, and neurogenic theories. The author believes that chronic gastric and duodenal ulcers can undoubtedly be caused by any one of various factors, or by the interaction of several factors.

The predominant or exclusive etiologic factor in the occasional ulcer is focal infection, gastritis, vascular disease, and trauma of a mechanical or chemical nature.

In the majority of cases a neurogenic or psychogenic origin, in whole or large part, appears the most likely. Evidence is submitted to support the contention that the psyche, mediated through the autonomic nervous system, engenders morbid gastric secretory and motor disturbances conducive to the genesis and development of ulcer.

In treating cases of ulcers, the first concern is sex, since other things being equal, ulcer in a female, irrespective of location, is likely to heal more readily than a similar ulcer in a male. The next concern is the location of the ulcer. If gastric, even though the lesion is small and circumscribed, it is essential to exclude the occasional malignant ulcer. Table 1 will be found helpful in differentiating a benign from a carcinomatous ulcer.

able privacy is possible, and the patient's confidence can be properly cultivated. Naturally, once anatomic change has taken place, irrespective of how much a psychogenic factor may have been responsible, the conventional treatment for ulcer, including sedatives and antispasmodics, should be instituted. However, the removal of emotional conflicts and correction of faulty mental habits, if possible, is essential in preventing recurrence.

As far as diet is concerned the guiding principle consists in the selection of food devoid of chemical, mechanical, or thermal irritation, of adequate vitamin and mineral content, and of caloric value sufficient to meet the individual requirements. Powdered whole milk is advocated in place of standard milk and cream mixture, if the latter does not prove suitable or convenient. In patients with hemorrhagic tendencies not due to erosion of one of the larger arteries, a sufficient intake of vitamin C is made possible by the addition of large quantities of strained orange juice to milk.

Drug therapy other than parenteral largely aims at the control, neutralization, or absorption of excess gastric acidity and secretion. The continuous, alkalinized milk or aluminum hydroxide solution drip method, has certain advantages, and should be employed in those cases resistant to the ordinary methods.

According to Wosika, tablets of alkalinized, powdered whole milk also may prove an effective and convenient mode of administration. Complete neutralization is not necessary to promote healing.

TABLE 1

Differential Diagnostic Features of Carcinomatous and Benign Gastric Ulcer Symptoms and Signs

	Favors Malignancy	Favors Benignancy	Degree (basis of 1 to 4)
Long duration of symptoms (ten years or more)		+	3
Age, thirty years or less, and free HCl, 40 units or more		+	3+
Late onset and elderly patient	+		2+
Irregular syndrome	+		2
Achlorhydria and obstruction	+		3+
Meniscus sign complex	+		4
Large niche	+		3
Irregular outline of niche	+		3
Location: Prepyloric, greater curvature, posterior wall	+		2+
Local tenderness (on roentgenologic examination)		+	3
Incomplete results of treatment	+		2+
Hourglass (B) type of stomach		+	3

In this respect the response to treatment, subjectively and objectively, is only less decisive than histologic examination of the excised or resected lesion. If the ulcer is duodenal, the response to treatment is slower, and recurrence is more likely, but there need be no fear of carcinoma.

When propitious, tactful inquiry should be made into the social, domestic, economic, and psycho-sexual life of the patient. The calm exterior appearance or deportment of the patient may be misleading. It is illuminating how completely the causes underlying personality disorders can be ascertained through daily visits to patients undergoing treatment in the hospital. There, suit-

Dragstedt has shown that the threshold value for the digestion of living tissue lies between 0.10 and 0.15 per cent of free acid (97 to 146 mg. of acid chloride per 100 c.c.). Under those circumstances which precipitate alkalosis or extrarenal uremia, substitutes for the ordinary alkalis may be found in the tribasic phosphates, hydrated magnesium trisilicate, kaolin, and aluminum salts, jels and creams.

Parenterally histidine hydrochloride may give complete relief and even cure in some cases.



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- It adsorbs intestinal toxins and bacteria and becomes a corrective rather than a preventive

In Two Forms

Maolin No. 3 is supplied in TWO forms—
Maolin No. 3 Laxative and Maolin No. 3 Plain.

Maolin No. 3 Laxative combines colloidal aluminum silicate with magnesium oxide, mucilloid gums and agar agar (for lubricating bulk). To each dose (3 gms) is added $\frac{1}{4}$ gr. of phenobarbital and $\frac{1}{2}$ gr. extract of hyoscyamus as sedatives.

Maolin No. 3 Plain differs from the Laxative formula in containing only enough magnesium oxide to overcome the constipating effects of kaolin.

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Diets in Convalescence

MITMAN in the *Practitioner* (142, 777, 1939, 852) states that diets prescribed in convalescence have two particular aims: (1) to constitute a transition from the special diet necessary for the disease to the ordinary diet of the

patient; (2) to restore the tissue losses sustained during the illness.

The physician must have the following factors of the patient's dietetic history in order to arrange the transition:

How many meals are ordinarily taken in the day; the size of breakfast; whether the chief meal is taken mid-day or at night; how many meals contain meat; Whether sweets or savouries are preferred; and which articles of diet the patient avoids, either because they are unsuitable or distasteful. The second objective demands a liberal proportion of tissue-building food for a caloric value above the body's immediate requirements. Success is best gauged by weighing the patient weekly.

To guide the physician, the author suggests the following general principles:

1. Appetite.—Stimulation by acid fruit-juices, hors d'oeuvres, bitters, aperitifs, condiments, spiced foods, soups, and by variety in the diet.

2. Diet.—(a) A generous, balanced and varied diet rich in body-building proteins, vitamins (especially D) and mineral salts, particularly iron and calcium; of high caloric value; and producing considerable roughage, but excluding articles contra-indicated by the nature of the disease. (b) Gradual transition from relatively light, easily digested meals taken at frequent intervals to heavier ones at longer intervals. (c) Return to the patient's normal dietary unless the nature of the disease demands some permanent modification in his dietetic habits.

3. General conduct to assist digestion and aid convalescence:—(a) Meals to be taken quietly and happily, avoiding worry at all times. (b) No excesses of tobacco or alcohol. (c) Rest before and after meals. (d) Fresh air and moderate exercise between meals. (e) Early to bed.

Dr. Mitman presents a table of articles of diet, with quantities and constituents and variations in type and in method of cooking so as to relieve the monotony. Also given are menus for two weeks' meals for convalescent patients.

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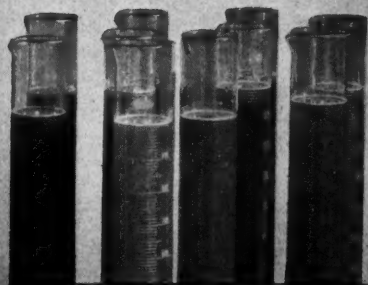
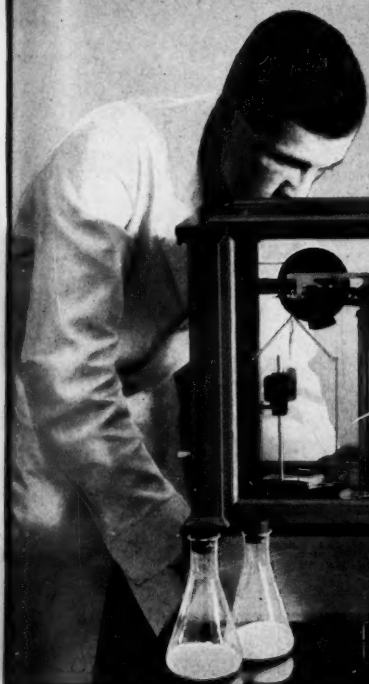
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GONADIN

Purification



On the balance is the one gram of Gonadin (300,000 units) refined from ten liters of pregnant mare serum. The flasks in the foreground contain the two-hundred odd grams of dry, concentrated antitoxin obtained from ten liters of high titre globulin.

Indications: Gonadin is the most potent gonadotropic hormone known. It has been shown that it completely replaces the pituitary gonadotropic hormones in both males and females. Gonadin is indicated in the treatment of amenorrhea, functional bleeding, hypopituitary infantilism and sterility in the female; and in the treatment of sterility due to non-motile sperm in the male.

For your convenience Gonadin is packaged as are all Cutter biologicals—in solution, ready to inject. Sufficient excess is added to insure full labeled potency at expiration date (nine months from date of issue) if kept at room temperature, and eighteen months under refrigeration. At expiration date, Gonadin remaining on your hands may be exchanged for fresh material.

The photograph shows the extreme concentration of Gonadin in comparison to concentrated antitoxin. Also, you will see, both are brought down to a dry powder. Thus either *could*, if desirable, be packaged in pill form (for dilution by the physician) which remains quite stable and obviates the necessity for the manufacturer to "excess fill" and exchange packages at expiration date.

Packages: Gonadin is packaged in six-hundred unit cartons containing three vials of two-hundred units each in sterile solution ready for injection.

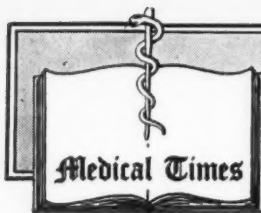


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Dietetic Digest

Apples in Nutrition

FAWNS and Martin in the *Journal of the Society of Chemical Industry*, (57, 60, 1938) state that most of the nutritional value of whole apples is retained in the juice. The sugar content of apple juice varies considerably from 65-9% of the average for whole apples. A distinct advantage in dietetics is the presence of the major constituents of whole apples in a liquid medium capable of absorption without preliminary digestion of vegetable tissue being necessary. Comparison with other figures shows the calorific value of apple juice to be considerable higher than that of mild ales, bitters or lagers and less than that of strong beers and old ales.

The average calorific value for milk is approximately 390 calories per pint as compared with 280 calories per pint of apple juice.

Most ascorbic acid in apples is found in the skin of the apple so that valuable food item is lost to the juice.

Apple juice contributes to the building up of an alkali reserve because the organic acids present (malic, citric and acetic) are metabolizable. The ultimate contribution to the acid-base balance depends on the mineral constituents which are alkaline by reason of the excess of basic radicals present.

Anti-Acrodynic Potencies

SCHNEIDER, Ascham, Platz and Steenbock in the *Journal of Nutrition*

THE increased importance of the field of nutrition has prompted a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages is presented the current literature in this field, abstracted by

Madeline Oxford Holland, B.Sc., M.Sc.

XX

state that since the anti-(18, 99, 1939, 1) acrodynic vitamin was differentiated from the other components of the vitamin B complex there has been a need for a survey of the anti-acrodynic potencies of various foodstuffs on rats. Fifty-two materials were examined with the following results: fruits and vegetables were found to be poor sources; fish and meat, fair; seeds, legumes and cereals relatively rich, and certain vegetable fats extremely potent sources of anti-acrodynic activity. The author also includes a table of the minimum curative level, maximum failing level, units per 100 Gm., and Wilson and Roy values for the 52 foods tested for anti-acrodynic potency.

Vitamin A in Human Milk

Chevallier, Giraud and Dinard in *Comptes rendus société biologique* (131, 373, 1939, 16) report on the content of vitamin A in the milk from 18 women. Sixty determinations were made and the results varied from 6 to 47 γ per 100 Gm. of milk. The vitamin A content seemed to be roughly proportional to the fat-content with more present in young women than in older women. There was considerable variation in the vitamin A content of milk taken from the same person but at different times. In order to control the accuracy of the results all the women were kept on the same diet.

In the same issue the authors also report on a comparison of vitamin A content of milk and of blood of 15 lactating women, 12 were found to show a higher vitamin A content in the blood than in the milk. 18 γ per 100 Gm. was the average vitamin A figure for the milk in all the subjects and 25 γ per 100 Gm. the average for the blood.

MEDICAL TIMES, SEPTEMBER, 1939

OLD BELIEFS ABOUT IRON



THE GREEKS USED CAST-OFF
IRON HORSESHOES AS A CHARM
AGAINST EVIL AND AS A —
HEALING AGENT (ACCORDING TO PLINY)

CHINESE HAVE FOR AGES
USED A NECKLACE OF CROOKED
HORSESHOE NAILS TO WARD OFF
ILLNESS AND EVIL INFLUENCES



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Hematinic Plastules conform to present day requirements for *effective* and *economical* treatment of secondary anemia . . . Small dosage, easy assimilation and rapid response to treatment favor this type of medication over other forms of iron now in common use.

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TWO TYPES:

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Hematinic Plastules with Liver Concentrate

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sion in the syphilitic group as compared to the non-syphilitic group was slightly greater but was considered coincidental because of the small number of syphilitic cases against the much greater number of non-syphilitic cases.

A study of 3,329 clinical cases, divided into syphilitic and non-syphilitic groups, revealed the incidence of angina pectoris to be almost ten times greater in the non-syphilitic group than in the syphilitic group.

It is evident that syphilis is not a primary or secondary factor in the production of coronary artery occlusion or angina pectoris.

—Ray W. Kilsane, M.D., Ruth A. Koons, M.D., and Donald L. Mahanna, M.D.
in *Urol. and Cutan. Review*, January, 1939.

ROLE OF SYPHILIS IN CORONARY DISEASE AND ANGINA PECTORIS

A review of 5,859 autopsies, divided into syphilitic and non-syphilitic groups, revealed the incidence of coronary artery sclerosis in the syphilitic group to be approximately four times greater than that of the nonsyphilitic group. However, this cannot be considered as evidence that syphilis is an important secondary factor in the production of coronary artery disease.

The incidence of coronary artery occlu-

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C9

ASTHMA.

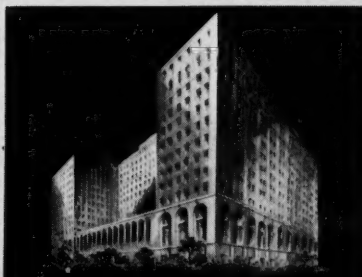
Roentgen therapy in. C. K. Maylum & E. T. Laddy, JI. of Allergy, 11 135. (Jan. 1939) Report on 161 cases of asthma treated mediasternum by irradiation of through two paravertebral fields. All were moderately severe or severe cases in whom either no specific cause had been determined or asthma had persisted despite treatment.

Of these cases 61 (38%) obtained more than 75% relief. Twenty-three of the cases received other treatment besides Roentgen irradiation. Twenty-six cases (16% of total) obtained 50 to 75% relief. The balance (46%) experienced less than 50% relief and are classified as failures. Of these, five felt distinctly worse after Roentgen treatment.

The authors advocate Roentgen therapy as an adjunct to other treatments in cases of severe asthma unrelieved by other methods.

CHRONIC ALCOHOLISM.

Treatment of—with Benzedrine sulfate. W. Bloomberg. The New England JI. of Med., 220 130-135. (Jan. 1939)



"Aristocrat of Hotels"—The Drake is distinguished for the spacious luxury of its rooms, the excellence of its cuisine. Yet tariffs are always moderate.

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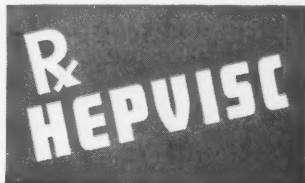
Benzedrine sulfate (amphetamine sulfate) is said to have a striking effect on the mood and mental alertness in psychotic and psychoneurotic patients as well as in normals. It has been found effective in relieving alcohol "hangovers" and appears to increase the ability to consume alcohol without intoxication.



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2. Unrecognized and improperly treated syphilis is very much less common than ten years ago.

3. The Wassermann reaction, or an accredited serologic test, is only an adjunct in diagnosis and cannot be applied rationally independent of history and clinical picture.

4. Neurosyphilis is probably less common than formerly as shown by a much smaller incidence in the last ten-year period of private cases studied than in the first ten-year period. A survey of admissions to hospitals over the country for the two ten-year periods indicates a lowering of the incidence of neurosyphilis.

5. In the light of our experiences in the field of internal medicine, syphilis in its various clinical manifestations is no longer a dread disease from the standpoint of accurate diagnosis or clinical cure.

—Willard C. Stoner, M.D.,
in *Urol. and Cutan. Review*, January, 1939.

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55.8% pregnancies among 43 cases of sterility treated with

GONADIN[★]

Hall reports: "In a series of 135 cases which received equine gonadotropic hormone (Gonadin, Cutter), there were 58 percent cures in patients with menstrual disturbances, 47.0 percent of those with genital hypoplasia were cured, and 55.8 percent of those who were treated for sterility became pregnant." The author emphasized that the cases of sterility were carefully selected and that all extraneous causes (infections, male sterility, etc.) had been ruled out. The average length of treatment was four months.

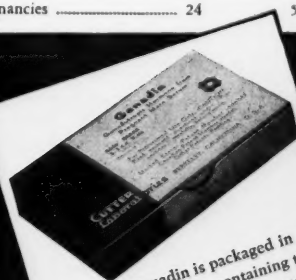
★ Hall, George Joyce: California and Western Med., Sept. 1939, 51:3. Reprints available.

TABLE 2—Data in Forty-three Cases of Sterility

Menstruation	No. of Cases	Duration of Sterility	Pregnancies	Percent
Apparently normal	14	3 to 7 years=4 cases 7 to 10 years=7 cases 10 to 17 years=3 cases	10	71.3
Dysmenorrhea	8	5 to 7 years=5 cases 7 to 9 years=3 cases	6	75
Hypomenorrhea	8	5 to 7 years=4 cases 7 to 10 years=3 cases 10 to 17 years=1 case	5	62.5
Oligomenorrhea	7	5 to 7 years=5 cases 7 to 10 years=2 cases	2	28.6
Menometrorrhagia	3	3 to 5 years=3 cases	1	33.3
Amenorrhea, secondary	2	5 years=2 cases	0	0
Amenorrhea, primary	1	6 years=1 case	0	0
Total cases		43	Total pregnancies	24
				55.8%

TABLE 3—Summary of Results

	Not Improved	Improved	Cured
Menstrual disturbances	11%	31%	58%
Genital hypoplasia	17%	35%	47%
Sterility			55.8%

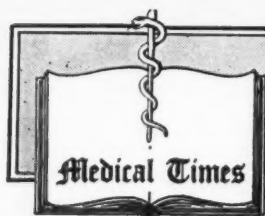


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Dietetic Digest

Banana Therapy in Intestinal Treatments

WEINSTEIN and Bogin in the *Review of Gastroenterology* (6, 21 1939, No. 1) state that ripe banana was found to alter the intestinal flora from one in which *E. coli* predominated to one in which *L. acidophilus* became the numerically outstanding organism. This change in bacterial flora did not persist, however, during the entire course of banana feeding, the aciduric bacillus disappearing in all of the subjects by the end of the sixth to eighth week of treatment. In the exceptional case, *L. acidophilus* made up the bulk of the bacterial flora during the entire banana treatment period, and was found in the intestine even after the ingestion of this fruit had ceased.

Ripe banana gave relief in from one to two weeks in all of the adults and children studied as constipated subjects. This benefit persisted in most instances for some time after cessation of ingestion of the fruit. Large amounts of the ripe fruit—four bananas per day—were well tolerated, and no objections were voiced to its continued use.

One case of ulcerative colitis, in which the diagnosis had been established by proctologic and x-ray examination and which was of fairly long duration, was treated by banana feeding, all other medication being stopped. This subject gave a favorable response to the treat-

ment, there being marked amelioration of the diarrhea, with disappearance of all traces of blood from the stool. The banana diet brought about the establishment of an aciduric flora which persisted for only a part of the banana therapy period. While the results obtained from banana therapy in this single case of ulcerative colitis should not receive too much emphasis, they are at least suggestive, and the subject warrants further clinical investigation.

Experiments might also be conducted with the dehydrated fruit as the above results apply only to the natural ripe fruit.

Enteric Fever Therapy

COOKSON in the *Practitioner* (142, 683, 1939, 852) states that with the all-fluid diet formerly used in enteric fever cases, under-nutrition was inevitable. It is now believed that a more liberal diet can often be taken with advantage and without increasing the liability to intestinal hemorrhage.

The high and prolonged fever makes it necessary of course to supply large amounts of fluid and to try to maintain nutrition by a diet of adequate caloric value which for the average adult enteric fever patient is one containing 3,000 to 4,000 calories or 30 calories per lb. of body weight. The fluid intake should amount to 4 to 8 pints daily. The diet must also be balanced in regard not only to fat, protein and carbohydrate but also to its content of accessory food factors.

The following may be given in addition to milk or milk substitutes which form a considerable part of the diet: cream, lactose, junket, rice pudding, blancmange, cream soup, biscuits, egg, toast, custard, gruel, apple sauce, milk chocolate and ice cream. After a preliminary period of 24 hours of 2-hourly

—Continued on page XXIV

THE increased importance of the field of nutrition has prompted a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages is presented the current literature in this field, abstracted by

Madeline Oxford Holland, B.Sc., M.Sc.

OLD BELIEFS ABOUT IRON

IN THE ANCIENT EAST
KINGS AND PRIESTS
BELIEVED THAT TO TOUCH
IRON WAS DEFILING



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Dietetic Digest

milk feeds, flavored with tea, coffee or cocoa, the above may be gradually added until an intake of 3,000 calories or more is reached. Between feeds plain water and barley water can be given as much as is desired along with lemonade, orangeade or other fruit drinks with added lactose or glucose. Ascorbic acid should be given in doses of 100 mgm. daily in a milk feed.

Gradually increase the diet as the patient improves unless there is a relapse in which case the diet should be brought back to the former level.

DIET IN ENTERIC FEVERS (3,000 Calories)

6 a.m. Milk, 5 oz.; cream, 1 oz.; lactose, $\frac{1}{2}$ oz.
8 a.m. Gruel, 7 oz. (e.g. milk, 2 oz.; farex, 1 oz.; butter, 1 teaspoonful; barley water, 5 oz.; sugar or salt to taste); toast, 1 slice; butter, $\frac{1}{2}$ oz.
10 a.m. Cocoa, 5 oz.
12 noon. Vegetable cream soup with salt, 8 oz.; egg, 1; toast, 1 slice; butter, $\frac{1}{2}$ oz.; chocolate blancmange, 6 oz.

—Continued on page XXVII



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by prescribing HVC (Hayden's Viburnum Compound), used and tested by physicians for over seventy years. Its value as an antispasmodic and sedative is well known to the medical profession. Send for your trial sample.

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Dietetic Digest

- 2 p.m. Malted milk, 8 oz.
 4 p.m. Milk, 5 oz.; cream, 2 oz.; lactose, $\frac{1}{2}$ oz.
 6 p.m. Milk toast (milk, 4 oz.; cream, 2 oz.; toast 1 slice; butter, $\frac{1}{2}$ oz.; salt).
 Toast or bread, 1 slice; butter, $\frac{1}{2}$ oz.; egg, 1; cup custard, 4 oz.
 8 p.m. Egg-nog, 1 glass.
 10 p.m. Milk, 5 oz.; cream, 1 oz.; lactose, $\frac{1}{2}$ oz.

Diets for Diseases of Children

Paine in the *Practitioner* (CXLII, 525, 1939, 850) presents special diets for diseases in childhood.

Low fat diets are of value mainly in the treatment of catarrhal jaundice and other liver conditions, but sometimes are necessary in cases of recurrent vomiting.

Breakfast: Skimmed milk. (Hand skimming is often sufficient.)
 Bread. Sugar, syrups, honey, jam.
 Cereals (oatmeal, cornflakes).
 Fruit.
 Tea or coffee.

Lunch: Bread, jam.
 Tomatoes, marmite, green salads.
 Tea with skimmed milk.
 Fruit. Cakes containing no fat, e.g. angel cake, buns. Boiled sweets, peppermint creams, etc., may be given.

Dinner: Soup (all fat to be removed from the stock, thickening with lentils, flour, or vegetables).
 White fish, rabbit or chicken, tripe.
 Potatoes, peas, beans, root vegetables, greens.
 Milk puddings (skimmed milk).
 Stewed fruit, jellies, egg white (whisked with sugar).

Avoid: meat, fish other than white fish (e.g. salmon, herring, halibut), egg yolk.
 Most biscuits and cakes.
 Chocolate, toffee, fudge, marzipan.
 Butter, cream, dripping, olive oil.
 Suet puddings.

In colitis and gastro-enteritis a non-irritating low residue diet is desired but no detailed daily dietary is necessary. The following outline of foods is suggested:

Articles to Avoid:

Oatmeal, brown and wholemeal bread.
 Fish with small bones.
 Coarse meat, especially that with much fibrous or elastic tissue.
 All nuts.
 Peas, beans, green vegetables.
 Fruits with skins or pits or coarse fibre.

—Continued on page XXVIII



Prompt and Effective Symptomatic Relief in HIGH BLOOD PRESSURE

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Dietetic Digest

Articles Allowed:

Milk, cream, butter, soft cheese, eggs.
White bread, rice, sago, potatoes, cornflakes.
Fish such as cod.
Rabbit or chicken, scraped meat or middle cuts.
Milk puddings, puddings made with white flour.
Syrups, jellies, jams without pips or skin.
Meat pastes, cakes without fruit.
Tea, coffee, cocoa, marmite, beef extract.
Several firms are now manufacturing homogenized or strained vegetables. These are suitable to give.

**SAFE,
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Peacock's Bromides

**ANTISPASMODIC
SEDATIVE
HYPNOTIC**

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The dietetic treatment of coeliac disease cannot be made a matter of rule of thumb. The study of the individual must guide construction of the diet. The aim of the treatment is to increase the tolerance of the intestines to the non-tolerated foodstuffs. In its most severe form there is intolerance to both fat and carbohydrate, making protein the only food to be utilized. As soon as symptoms such as frothy stools, abdominal discomfort, and furred tongue, have subsided, it is permissible to add articles to the diet which contain fat and carbohydrate. The author suggests typical detailed diets for stage I, severe protein diet: stage II, moderate protein diet: stage III, mixed diet.

The author states: "Transition from diet to diet must be gradual and the effect on the stools noted. When the stage of starch addition has been reached it is useful to examine the stool for starch residues. This can be done by adding iodine solution to a little of the faeces. Sometimes there is sufficient excess for a visible change of color (blue or purple) to occur; examination by the microscope will reveal less marked deficiencies in absorption. The presence of excessive starch in the faeces suggests a reduction of the amount given. Much gaseous fermentation of the stool (frothiness) also indicates excessive carbohydrate residues. The various forms of dextrin-maltose appear to be the most easily handled carbohydrate, for which reason the ripe banana (soft and brown) is valuable as in ripening all the starch turns to dextrin-maltose.

"It is not so easy to detect excess of fat in the stool. The chemical analysis requires a properly equipped laboratory. Microscopic examination is often misleading, but the presence of excessive fatty acid crystals can be taken as definite evidence of excessive fat. Unfortunately absence of a visible excess of fatty acids is often found when chemical analysis shows a definite excess of fat in the stool. Obviously, excess of fat indicates a reduction in the fat in the diet.

"Diet plays an important part in the treatment of nephritis in children. In acute inflammatory state (e.g. acute glomerulonephritis) it is necessary to rest the kidney as far as possible. The diet should therefore be designed so as to have

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no residue which must be excreted by the kidney. At the same time it is necessary to supply enough food to prevent the formation of ketone bodies which are highly toxic to the kidney and also to save the body from having to draw upon its protein reserves. The simplest way of doing this is to give a sufficient amount of carbohydrate to cover the basal metabolic needs. The average basal metabolic need at three years is 900 calories, rising by about 70 calories a year to 1,350 at ten years; as dextrose roughly supplies four calories per gramme it would thus be necessary to give 225 Gm. ($7\frac{1}{2}$ oz.) rising to 340 Gm. ($11\frac{1}{2}$ oz.) of dextrose a day. Concentrated urine entails work, therefore sufficient fluid should be supplied to yield a urine of specific gravity 1.008-1.010. Thus, some of the sugar can usefully be given with fruit juice, orange or lemon, and some water. This will also supply vitamin C and alkaline bases. The remainder can be given as barley sugar. Once the acute stage is past and urine is being passed freely it appears to be of no great advantage to withhold proteins, even meat proteins, and as the next stage of treatment is usually somewhat lengthy, it is best to give a well-balanced normal diet such as would be given in the recovery stage of rheumatic fever. If, however, signs of renal deficiency are apparent, either oedema or nitrogen retention, then a modified diet is required. When oedema without nitrogen retention is present two ways of dietetic treatment are available—low-salt diet and high-protein diet (given in detail), and if desired these may be combined.

"Ketogenic diets may be used in two widely different conditions. The first is in epilepsy and some allied conditions, and the second is in pyuria. The technique of their use is somewhat different. Since the introduction of mandelic acid and protosil and allied substances ketogenic diets are no longer used in combating infection in the urinary tract, but in the treatment of epilepsy they are of definite if limited value. It is customary to denote the varying grades of diet in terms of the ratio:—

"Grams ketogenic food

"Grams anti-ketogenic food.

"Carbohydrates are entirely anti-ketogenic. Proteins are partly ketogenic and partly anti-ketogenic, and the glycerin moiety of fat is anti-ketogenic and the fatty acid ketogenic. The accurate calculation of the ratio is therefore complicated, but over the range of diets normally used the following formula gives values approximately correct:—

"Ketogenic Grams fat
ratio = —————
Grams carbohydrate + Grams protein.

To be continued—

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*No significant decreases in granulocytes were observed in rabbits fed up to 20 times the normal dose of CAUSALIN.

XXX

MEDICAL TIMES, OCTOBER, 1939

55.8% pregnancies among 43 cases of sterility treated with

GONADIN[★]

Hall reports: "In a series of 135 cases which received equine gonadotropic hormone (Gonadin, Cutter), there were 58 percent cures in patients with menstrual disturbances, 47.0 percent of those with genital hypoplasia were cured, and 55.8 percent of those who were treated for sterility became pregnant." The author emphasized that the cases of sterility were carefully selected and that all extraneous causes (infections, male sterility, etc.) had been ruled out. The average length of treatment was four months.

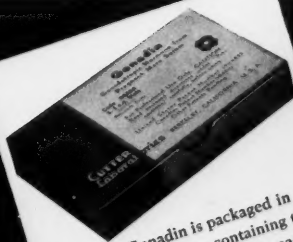
★ Hall, George Joyce: California and Western Med., Sept. 1939, 51:3. Reprints available.

TABLE 2—Data in Forty-three Cases of Sterility

Menstruation	No. of Cases	Duration of Sterility	Pregnancies	Percent
Apparently normal	14	3 to 7 years=4 cases 7 to 10 years=7 cases 10 to 17 years=3 cases	10	71.3
Dysmenorrhea	8	5 to 7 years=5 cases 7 to 9 years=3 cases	6	75
Hypomenorrhea	8	5 to 7 years=4 cases 7 to 10 years=3 cases 10 to 17 years=1 case	5	62.5
Oligomenorrhea	7	5 to 7 years=5 cases 7 to 10 years=2 cases	2	28.6
Menometrorrhagia	3	3 to 5 years=3 cases	1	33.3
Amenorrhea, secondary	2	5 years=2 cases	0	0
Amenorrhea, primary	1	6 years=1 case	0	0
Total cases	43	Total pregnancies	24	55.8%

TABLE 3—Summary of Results

	Not Improved	Improved	Cured
Menstrual disturbances	11%	31%	58%
Genital hypoplasia	17%	35%	47%
Sterility			55.8%

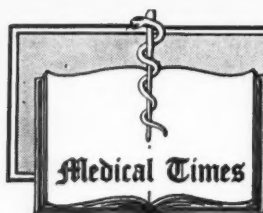


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Dietetic Digest

Diets for Diseases of Children

Paine in the *Practitioner* (CXLII, 525, 1939, 850) presents special diets for diseases in childhood.

—Concluded from last issue

"In the treatment of a case of epilepsy it is best to start with a 1:1 ratio and increase, if necessary, to a 2:1 or rarely to a 3:1 ratio. It is unreasonable to expect anyone to remain on a 3:1 diet for long, but it is quite possible to keep on a 1:1 diet indefinitely and a 2:1 diet can be maintained for several months. In practice if the diet is successful it is possible after a few months of complete or almost complete freedom from attacks to reduce the severity of the higher ratio diets and to approach the 1:1 diet, but this should be done gradually, as sudden addition of carbohydrate often causes a recurrence of fits. The diets must be adhered to closely. If more or less food is required, the alterations must not change the ratio."

The author presents three such diets with detailed quantities of foods for children from seven to twelve years of age.

In addition to the diets the author mentions several special recipes of use in the various diets and in special cases.

Infant Feeding Values

SHLUTZ, Knott, Gedgoud and Loewenstamm in the *Journal of Pediatrics* (12, 716, 1938) compared the value of the following infant feeding: dextrose, levulose, sucrose, lactose, dextrimaltose, karo corn syrup and honey. Two grams of sugar per Kilogram of body weight were given to four children of 7 to 13 years of age and 9 infants of 2 to 6 months of age and the blood sugar tolerance determined. In fasting the blood sugar values ranged from 87 to 110 mg.,

per 100 cc. for the older children and 76 to 92 mgm. for the infants. As a result of the investigation it was found that the infants tolerated dextrose better, but levulose was similar in both. In order of blood sugar curves, dextrose, dextrimaltose, and karo were highest with honey, sucrose, levulose and lactose following. In infants honey with the exception of dextrose was absorbed most quickly during the first fifteen minutes following ingestion, but did not flood the blood with exogenous sugar. In addition it maintained steady and slow decrease in blood sugar until fasting level was reached.

Relation of Diet and Health

HEISER in the *Scientific Monthly* (Oct. 1939, p. 304) states that there is close association between the importance of diet in the preservation of health cells and tissues with consequent normal function. An experiment conducted with rats showed that no disease occurred among correctly fed rats. Many of the common diseases encountered by physicians were induced in rats by feeding to them improper diets.

In man it is important that the constituents in his diet be properly balanced and that the digestive tract be in a healthy state if the correct diet is expected to produce and maintain bodies which are free from disease.

If man's digestive tract has been deranged by many years of the wrong diet or improper eating it is impossible to restore his system to the normal state. This should serve as a warning to keep the intestinal tract in good condition as well as continued ingestion of the proper dietary necessities.

An economic aspect of the situation is that the correct foods require a lower outlay of money than the menus to

—Continued on page XXV

THE increased importance of the field of nutrition has prompted a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages is presented the current literature in this field, abstracted by

Madeline Oxford Holland, B.Sc., M.Sc.

Dietetic Digest

(Continued from page XXII)

which humans are commonly accustomed. A smaller quantity of food is sufficient if the diet is correctly balanced. The greater majority of people have the bad habit of eating too much of unnecessary substances, consequently they are often depriving their systems of a more needed food which is present in very small quantities.

A larger percentage of sound healthy people at a much lower cost for food might be produced if the nation would scientifically regulate the consumption of food.

Thiamine Hydrochloride Content of Milk

THE advantages of changes in the vitamin content of milk, brought about by suitable feeding, are obvious. Morgan and Haynes in the *Journal of Nutrition* (18, 105, 1939, 2) report on their findings in experiments conducted on this subject. Milk of similarly different vitamin B₁ potency, namely 32 and 11 µg. per 100 Gm., was secreted by two healthy young women on diets of very much different vitamin B₁ content.

A new level of the 20 µg. per 100 Gm. of the lower potency was established when each subject was administered 5 mg. of crystalline thiamine hydrochloride daily for 1 month whereas the higher potency did not increase.

Ten mg. were then administered to the first subject and 14.2 to the second, the result being new levels of 25 and 25 µg. per 100 Gm.

Assaying cow's milk the authors found that three samples showed the following values: 27, 30 and 32 µg. per 100 Gm.

With the above results the following conclusion was reached: In cow's milk there is a maximum level of vitamin content, which content cannot be raised even with massive doses of thiamine hydrochloride, whereas in human milk the lower bracket of vitamin B₁ content is controlled by the content of the vitamin in the diet. Human and cow's milk have the same maximum level of 25 to 32 µg. per 100 Gm. of milk.

—Concluded on page XXVI

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A Method of Administering SULFAPYRIDINE to Inhibit Nausea and Vomiting

The use of Kalak Water as a vehicle for the administration of sulfapyridine appears to inhibit and, in some cases, entirely eliminate nausea and vomiting when the following procedure is adhered to:

1. Give the patient 6 oz. of cooled Kalak to sip slowly.
2. Add the sulfapyridine to ice-cold Kalak. For each 0.5 gm. tablet, use 2 oz. of Kalak. When the effervescence has ceased the drug is in suspension and ready for use.
3. Give the patient a few ounces of cooled Kalak to aid in the absorption of the drug.

It has been noted that this employment of Kalak tends to inhibit the formation of calculi, a result which occasionally occurs upon protracted sulfapyridine therapy.

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Dietetic Digest

To make the concentrate the cane sap is boiled in a copper pan, the syrup being allowed to settle, then decanted and filtered through a Buchner funnel and a filter-cel. In order to prevent crystallization of the concentrate, approximately 60% of the sugar is inverted. In a concentrate prepared by clarification with vegetable carbon the iron content was 0.19 — 0.24 mg per 100 Gm. whereas in the new concentrate the iron content is 1.4 — 3 mg. and the copper 0.2 mg. per 100 Gm. of the concentrate. During 1936, 242 children to whom was administered the old concentrate showed hemoglobin values averaging 62% of the normal by the Tallquist scale. The second year the percentage dropped to 57% on the control children. During the first year of administration of the new concentrate the average hemoglobin value was 80%, and 74% was recorded during the second year.

Insulin and Weight Increase

IN a series of 120 cases, in addition to 15 previously studied, insulin was found to definitely promote a gain of weight in persons underweight, according to McCastor and McCastor in the *Virginia Medical Monthly* (66, 484, 1939, 8). Two commercial brands of ordinary insulin, a special insulin and crystalline insulin were used, the types varying

—Concluded on page XXVII

Aurora

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according to the case. In a condition of allergy to one type another would be employed. The special insulins or the crystallized insulin were administered where the patient was allergic to both commercial varieties. The only type not inducing an allergic reaction in any condition was the crystalline insulin, being effective in only one daily dose in addition. The gain in weight reached a maximum in some individuals of 16 lbs. in 16 days, the regular insulin being administered at first in doses of 5 to 10 units three times daily and then increased to 40 units three times daily.



Sulfapyridine Released

Sharp & Dohme has recently announced the marketing of Sulfapyridine, the chemo-therapeutic agent originally introduced as "M. and B. 693" which has so dramatically reduced the mortality rate in all types of pneumonia and which, clinical reports indicate, is as effective as sulfanilamide, if not more so, against *streptococcus hemolyticus*, *meningococcus*, *staphylococcus*, *gonococcus*, and *B. coli*. Tablets sulfapyridine are supplied in compressed tablets of 0.5 Gr. (7.7 gr.) each, in bottles of 50, 100 and 1,000.

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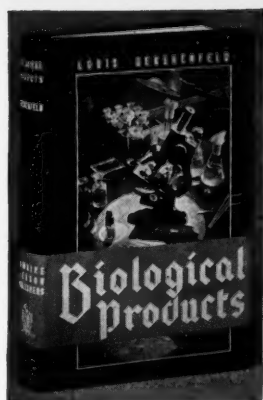
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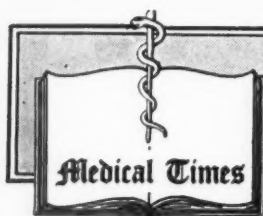
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Dietetic Digest

Proteins in Nephritis

Cameron in the *Edinburgh Medical Journal* (46, 386, 1939, 6) states that the general fear of protein administration in nephritis is partially unfounded since a patient suffering from nephritis is more apt to die from protein starvation than from protein excess. The limitation of milk, and the starvation diet, are not advisable. Experiments carried out showed that no deleterious action is affected on the kidney by proteins and that the urea content of that organ is not increased, by intake of 1 pint of milk per day. In nephritis cases proteins affect favorably the general condition of the patient with no abnormality in the urine or rise in blood pressure. In addition the restriction of proteins in the diet causes a lowering of the body's resistance to infection and does not relieve the kidney of its function of excreting the urea. The author suggests the following diet: Restrict the fluids ingested in the beginning of diet to 1 pint of glucose, 1 pint of fruit-juice, and a pint of milk daily. When the acute symptoms (such as blood casts and hematuria) have diminished and diuresis sets in, increase the caloric value of the diet with fats and carbohydrates. At this point conduct a renal efficiency test to determine the urea concentration range. If the range is below 2.5% begin a 50 Gm. protein intake; Increase it to 75 Gms. when the range has a maximum ability of 2.5%; To 95 Gms. when 3%, and 120 Gms. when 3.5% is attained. Treat the second stage of nephritis and nephrosis, whether there be edema or not, with a high protein diet of 100 Gms. or over, daily. It is not necessary that salt be forbidden as this step is required only when there is edema. The patient may be ambulatory. A high protein diet

THE increased importance of the field of nutrition has prompted a review of the progress of the medical sciences in dietetics and nutrition. Each month in these pages is presented the current literature in this field, abstracted by

Madeline Oxford Holland, B.Sc., M.Sc.

may also be given in the third stage of nephritis where renal failure appears, —95 Gms. being given at first and then regulated according to the urea concentration range (never dropping below 70 Gms. however) until the terminal stage is attained.

The author suggests the following proteins: cheese, eggs, fish, meat (white and red) and milk, the high nucleoproteins being unnecessary.

Evaluation of Human Vitamin C

VAUTHEY in the *Review of Gastroenterology* (6, 337, 1939, 24) suggests a method for testing the deficiency or saturation of vitamin C in human beings. Ascorbic acid in 600 mg. daily doses is injected intramuscularly for 3 days. During these days the excretion of ascorbic acid in the urine is tested quantitatively. If the patient is normal, the amount of ascorbic acid excreted during the three days will be twice the initial amount excreted per 24 hours. The patient is considered saturated to a great degree with vitamin C if the initial excretion per 24 hours is doubled in less than 3 days. Should the patient be deficient, the amount excreted will not be doubled in 3 days.

Iron Retention and Utilization

JOSEPHS in the *Bulletin of the Johns Hopkins Hospital* (65, 145-167, 1939, 2) reports the results of his studies in iron retention and utilization. In infants dur-

—Continued on page XX

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Dietetic Digest

ing the first three months of life the excretion of the iron absorbed was greater than at later periods of life when it became relatively constant. Of the iron ingested with milk and cereal diets, 60% was absorbed. During infections the iron intake was somewhat reduced along with a deficiency of vitamin D occurring with a corresponding reduction in the amount of iron retained.

In anemia, particularly with the hemoglobin value decreasing, the amount of iron retained was above normal. It would appear that the previous conception of iron deficiency is the opposite of that proved by these experiments, namely: the availability of iron must be considered in dealing with iron deficiency.

In extended studies the author observed the effects of inorganic iron in small quantities given during 47 five to six-day periods to infants (some normal and some nutritionally anemic), ranging in age from 3 weeks to 20 months. The following was observed:

1. When the intake of iron is above 2 mg. per Kg. of body weight per day, the amount of iron retained is increased.

2. Anemic infants retain iron in better fashion than do non-anemic infants, showing that the retention ability is affected by the initial hemoglobin level.

3. In a few cases iron administered to infants of less than six months of age caused a temporary increase in the rate of hemoglobin formation. In the majority of cases the utilization of the iron ingested by infants under 6 months of age depended greatly on age, or on the growth rate.

4. Retention of the iron is the chief factor in its utilization in infants over 6 months of age. The total amount utilized is increased by copper but the rate remains more or less stable. Retention of iron is not affected by copper.

5. Contrary to the usual findings and believed due to the small doses of iron employed, the author found that utilization of the iron is relatively little affected by the initial hemoglobin level and the related reticulocyte rise.

6. A period of several days' storage precedes the utilization of all ingested iron.

7. Lower levels of iron retention in anemic patients are conducive to a greater percentage of utilization.

8. A 2 to 3 week period of hemoglobin rise follows the ingestion of iron.

9. In addition to building hemoglobin, medicinal iron appears to have a regulatory function.

Reinforced Milk As Food Factor

Fowler in *Archives of Pediatrics* (56, 535, 1939, 8) reports the results obtained in an experiment on the feeding of a modified evaporated milk containing a lowered fat content but a higher protein level than human milk (in the proper proportion); vitamin B₁ in crystalline form; sufficient iron to provide a concentration of 6-9 mg. per quart when diluted; as well as 2,000 International Units of vitamin A and 320 U. S. P. units of vitamin D per quart when diluted. Ten children were given the modified formula for the first six months of life, with ten children fed by plain evaporated milk with Karo corn syrup and ten more fed breast milk, as controls. The gains in weight were approximately the same in all three groups but the first group appeared generally to be in better condition and to have better tissue tone than the other groups.

Anemia in Pregnancy

In the *Annals of Internal Medicine* (13, 91, 1939, 1) Bethell, Gardiner and MacKinnon state that tests conducted on 158 pregnant women from the medium and low income groups showed a true pregnancy anemia in 54% of the subjects. Animal protein in the diet proved an aid in the macrocytic type which did not respond to administration of iron without the modified diet. Ferrous sulfate gave very efficient results in the hypochromic type of anemia. Treated with ferrous sulfate, even though the hemoglobin value was normal, several pregnant women in post-partum showed better values for hemoglobin than those not receiving the iron sulfate. On the basis of these results the authors suggest that iron in some form (preferably the ferrous sulfate) be given to all pregnant women.

—Continued on page XXII

MEDICAL TIMES, DECEMBER, 1939

SAFE, SURE SEDATION

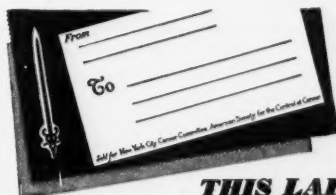
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XXI

Dietetic Digest

Value of Banana in Diet

ROBERTS, Blair Austin and Steininger in the *Journal of Pediatrics* (15, 25, 1939, #1) report the results of their investigations on the effect of the banana—supplemented diet on growth in height and weight, ossification of carpals, and changes in Franzen Indices. One hundred twenty-three boys, from 8 to 16 years of age, in an institution were given two to three bananas every day for nine months, in addition to the regular diet. A control group of 154 boys were studied. No difficulties were encountered in getting the boys to eat the bananas. The results of the tests on those fed bananas, as compared with those on the control group, were as follows: 1. The former gained a mean 0.9 lb. more in weight and a mean of 0.15 inch in height more than the latter, and a larger percentage of those given the supplemented diet equaled or exceeded the gains expected during the period; 2. Slightly better results in ossification of the bones of the wrist were shown by the experimental group; 3. A similar trend was shown by the Franzen measurements. Greater mean gains in measurements of arm girth, subcutaneous tissue, and weight, were noticed in the subjects taking the supplemented diet. A greater decrease in the percentage of undernourished boys was shown during

the nine months in the experimental group than in the control group.

Roberts, Brookes, Blair, Austin and Noble in the *Journal of Pediatrics* also report the effect of the supplemented diet on capillary resistance and reduced ascorbic acid in the blood plasma. The boys in the experimental group were found to average 0.2 mg. of ascorbic acid per 100 cc. of plasma higher than those of the control study. The allowances for the various dietary essentials should be closer to the higher than the minimal standards previously suggested, particularly in reference to vitamin C.

Treatment of Peptic Ulcer

PAGE and Thomas in *The Military Surgeon* (85, 1939, 4) states that treatments for peptic ulcer are numerous and varied in accordance with the high incidence, obscure etiology and distressing symptoms of the condition. With rational therapeutic procedures directed toward the neutralization of gastric acidity, relief of nervous tension and control of pylorospasm the authors investigated the properties of synthetic hydrated magnesium trisilicate. This compound has a formula corresponding to the theoretical formula of idealized sepiolite or meerschaum.

Magnesium trisilicate is an excellent antacid, antipeptic, antitoxic and adsorbent material which acts chemically to neutralize acid and physically to adsorb.

—Concluded on page XXIII

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IN diabetes the fragility of the walls of the retinal veins and arteries is very often increased and the bleeding which occurs causes the patient to suffer from impaired vision. Since diabetics do not necessarily utilize their vitamin C intake, the ophthalmic condition becomes worse instead of better. In order to restore the resistance of the walls of the blood vessels it is necessary to administer vitamin B with vitamin C, according to Friedenwald in a paper read before the October meeting of the American Academy of Ophthalmology and Otolaryngology.

Riboflavin Variance in Milk

HAND and Sharp in the *Journal of Dairy Science* (22, 779, 1939, 3646) report that cow's milk shows 20% more riboflavin content in the summer than in the winter, the latter content being

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Medical Library

DECEMBER, 1939

Medical Times

The Journal of the
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Electrocardiographic Considerations
Clinical Notes • Mental Hygiene
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Medical Book News Editorials

Contemporary Progress

Vol. 67

No. 12

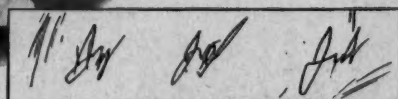


'RABELLON' brings symptomatic relief in Parkinson's disease—

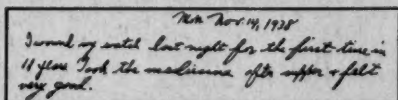
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1. J. Mt. Sinai Hosp., 6:93-99, July-Aug., '39
2. Pennsylvania M. J., 43:67-69, Oct., '39



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